Metalsmith

winter/83 volume three, number one $5.00

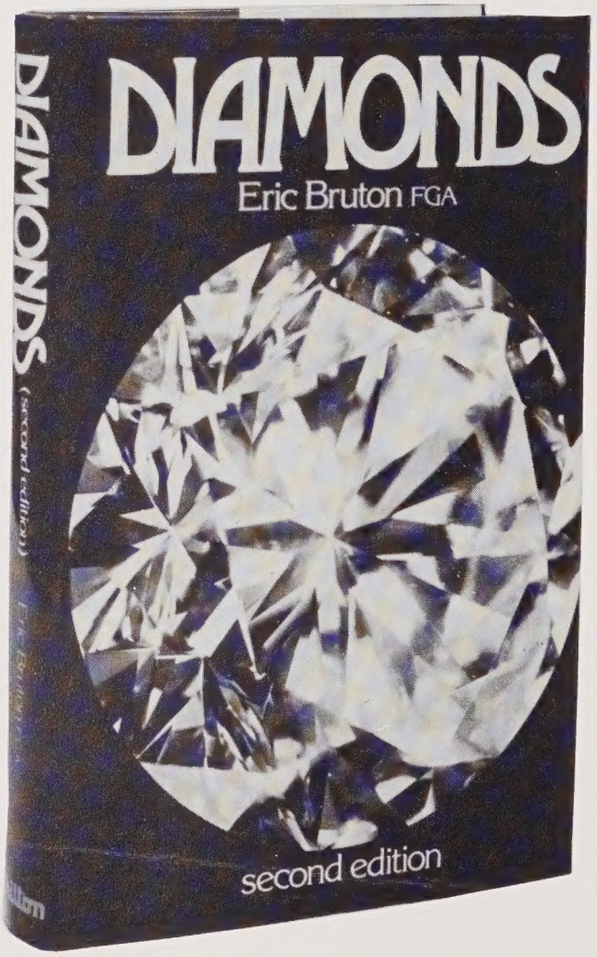
Master Metalsmith: Alma Eikerman
Techniques for the Head
Metalsmith's Guide to Athens
Metal Spinning
Index to Issues: fall/80-spring/82

available now through the

Jewelers' book club

BRAND NEW EDITION

Now Available! A Bigger, Better Edition of One of the Most Captivating Books on Gems Ever Written.



NEW! Completely revised and updated . . . includes fascinating material never before published.

By Eric Bruton, Editor — publisher of Retail Jeweler in England and former editor of The Gemologist and Industrial Diamond Review.

Diamonds has been called by many the most comprehensive source of up-to-date information ever published on the intriguing — and very lucrative — subject of gem diamonds. Now in over 530 crisply written vividly illustrated pages, internationally renowned gemologist Eric Bruton combines the fabulous history and lore of the diamond industry with the kind of solid practical information that professional jewlelers need to know. Diamonds is an encyclopedia of invaluable knowledge and business profit potential, covering everything from prospecting, mining, and cutting methods to grading and pricing polished diamonds, investment and advice on spotting simulants.

There are over 500 pictures and drawings, including 16 color plates, illustrating, among other things, different cuts, color and clarity scales, and the estimating of weight by dimensions. The book also contains four appendices listing the world's largest rough and polished diamonds.

Diamonds is a truly invaluable reference, a hardbound gem that belongs on every jeweler's bookshelf. $25.00

Order your copy today through the Jewelers' Book Club

Return this order form and your remittance to: Jewelers' Book Club, Jewelers' Circular-Keystone, Chilton Way, Radnor, Pa. 19089

Please send me _____ copies of DIAMONDS (second edition: first edition no longer available), by Eric Bruton, @ $25.00 per copy. I enclose a check for $_____ to cover the full amount of this purchase, including my state sales tax.

_____
(name) (company)

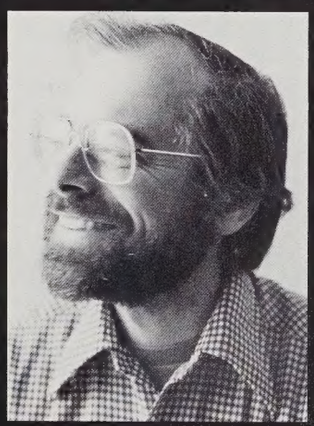
_____
(street address)

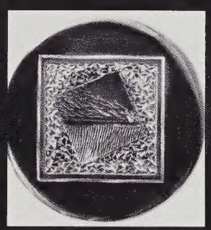
_____
(city) (state) (zip)

Mail Check and Coupon to:
Jewelers' Book Club, Jewelers' Circular-Keystone
Chilton Way, Radnor, Pa. 19089

I-M

The Great West METAL SHOW





An exhibition of work by Gene Pijanowski, Heikki Seppa, Lane Coulter, Irene Mori and Donn Williams.

A three-day symposium dealing with Jewelry/Metalsmithing design, techniques and concepts. Hands-on workshops to include Gene Pijanowski: Japaneses Textural Techniques on metal and a new film on "Mokume", and Heikki Seppa: Form emphasis for Metalsmiths. Slide lectures by participating Metalsmiths include Lane Coulter, Irene Mori and Donn Williams.

Opening Reception: March 23, 1983, 7:00 p.m.
Workshops & Lectures: March 24, 25 & 26.

For further information contact; Joe Cornett, Northern Arizona University Art Gallery, C.U. Box 6021 Flagstaff, Arizona 86011 (602) 523-3471.

This project is jointly supported by a grant from the Arizona Commission on the Arts, a State agency, and the National Endowment for the Arts in Washington, D.C., a Federal agency.

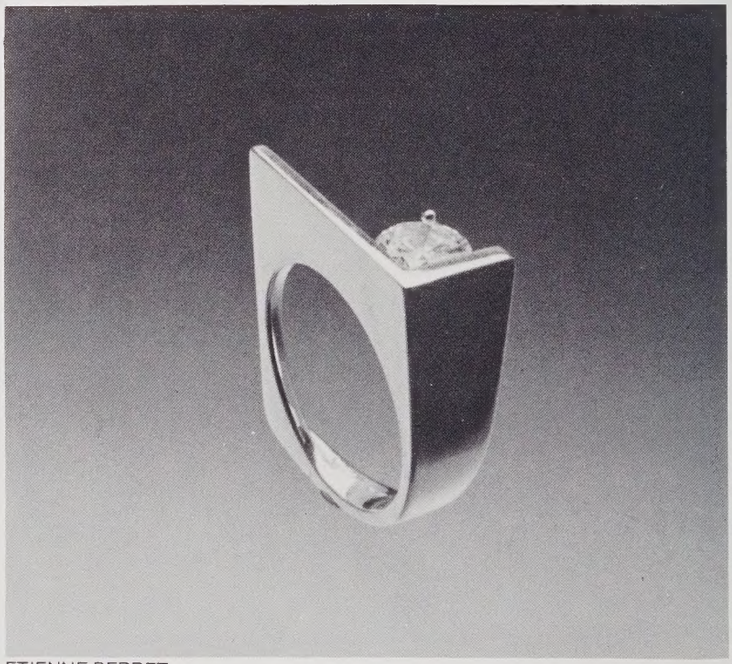
Announcing a
Platinum Design Competition for SNAG Members
Sponsored by
Johnson Matthey Inc.

Watch for it!

Prospectus and entry form will appear in the December SNAG newsletter
Entries due:
March 10, 1983
Finalists announced:
March 20, 1983
Exhibitions and awards:
June 10, 1983

JOHNSON MATTHEY

MICHAEL GOOD


ETIENNE PERRET

Etienne

20 MAIN ST. CAMDEN, MAINE 04843 (207) 236-9696

U.S. AGENT FOR MICHAEL GOOD,
THOMAS WHITING, ETIENNE PERRET

Metalsmith

winter/83 volume three, number one

Metalsmith

*CoEditors/*Mark Baldridge, Sarah Bodine
*Design Director/*Martin Moskof
*Design Assistant/*Susan Ritzau
*Circulation/*Bob Mitchell
Contributing Editors:
Jamie Bennett
Bruce Metcalf
Paula Dinneen
Bernard Bernstein
Robert Cardinale
Elizabeth Skidmore Sasser

Society of North American Goldsmiths
*President/*Arline Fisch (1984)
*Vice President/*Michael Croft (1984)
Secretary-Treasurer/
Douglas Steakley (1983)

Board Members
Mark Baldridge (1983)
Richard Helzer (1984)
Marsha Lewis (1986)
Linda Threadgill (1986)
Gary Griffin (1984)
Richard Mawdsley (1985)

Published quarterly by the Society of North American Goldsmiths (SNAG), a nonprofit organization, 2849 St. Ann Drive, Green Bay, WI 54301. Annual membership rates, which include a subscription to *Metalsmith:* $75 for Distinguished Members, $45 for Members and Institutions, $30 for Students.

Annual subscription to *Metalsmith* (4 issues): $20 United States and Canada; $26 all other countries (surface mail).

Address membership and subscription inquiries to: Bob Mitchell, SNAG, 2849 St. Ann Drive, Green Bay, WI 54301. Claims for missing issues only accepted if received within four months (USA, Canada, Mexico), elsewhere six months. Address advertising inquiries to: Bob Mitchell, SNAG, 2849 St. Ann Drive, Green Bay, WI 54301. Telephone (414) 468-0204.

Contents copyright © by SNAG and may not be reproduced in any manner or form without written permission.

ISSN 0270-1146.

Second class postage permit at Greenbay, WI and additional mailing offices.

Address editorial material to Sarah Bodine, Editor, 35 West 84th Street, New York, NY 10024. Unsolicited manuscripts and photos will be handled with care, but the magazine assumes no responsibility for them. All material must be accompanied by a self-addressed, stamped envelope. The opinions expressed in *Metalsmith* are those of the authors and do not necessarily represent those of the trustees of SNAG or the staff of *Metalsmith.*

Metalsmith is partially supported by a grant from the National Endowment for the Arts.

Printed and typeset by Eastern Press, New Haven, CT.

Postmaster: Send address changes to *Metalsmith,* 2849 St. Ann Drive, Green Bay, WI 54301.

Cover: Alma Eikerman, *Mocha Pot,* sterling silver and ivory; made at Hans Hansen's factory in Kolding, Denmark, 1951. Photo: Ken Strothman

Features

Hephaestus: God of Fire and Metalsmithing
by Philip Morton 8

Master Metalsmith: Alma Eikerman
by Lynda LaRoche 10

Techniques for the Head
by Bruce Metcalf 18

A Metalsmith's Guide to Athens
by Ann Barros 22

Metal Spinning
by James Seavey 29

Charles Loloma: Tradition and an Individual
by Barbara Rockefeller 34

Point-Counterpoint: the New Constructions of Keens and Bennett
by C.E. Licka 43

Preparing the Metalsmith Student for Industry
by Alf Ward 46

Departments

On View 14

Business of Jewelry: Licensing
by Terri Lonier 49

Metals for Metalsmith: Hydrogen Peroxide Pickling
by Bill Seeley 50

Metalsmith Index to Issues: 1/1-2/2, 1980-82
compiled by Joanne Polster 51

Exhibition Reviews

Mokume-gane in Maine
by Patricia Daunis-Dunning 37

Pamela Ritchie: Metalworks
by James Evans 37

Bernhard Schobinger
by Anna Pitt 38

Eric Russell and Caroline Strieb
by Carolyn Kriegman 38

Betty Helen Longhi: Sculptural Jewelry
by Anne Krohn Graham 38

Statements in Sterling/82
by Ivy Ross 39

Gold '82 Jewelry Design Competition
by Ivy Ross 39

Royal College of Art Degree Show
by Barbara Young 40

Harlan W. Butt: Pieces for Japan
by Gary C. Cadwallader and Joseph R. Justice ... 41

Marci Zelmanoff
by Glenda Arentzen 41

David LaPlantz
by Alan Revere 42

Sous
by Carrie Adell 42

Editorial

Craft criticism is a growing field, a discipline sorely needed by craftsmen, curators and collectors alike. *Metalsmith* runs a regular section of exhibition reviews to promote dialogue between craftsmen and their critics. However, few reviewers seem yet comfortable in the role of critic. A major problem is the tendency for a reviewer to treat exhibited work technically and descriptively rather than analytically. A work is more than its technical mastery—one surmises it would not be shown if it were in some way technically incompetent—and mere description is better accomplished visually.

A good critical review extrapolates the artist's philosophy and judges the success or failure of the pieces at hand. It goes beyond technical mastery to critique the work's esthetic contribution. Current work is seen in relationship to the development of the artist's career and to historical precedents in the field. A good review reveals influences and compares the work to that of contemporaries. It also points out if the work makes a contribution beyond the immediate medium.

While criticism may provide enlightenment for the viewer, it is invaluable as dialogue between artist and critic, without whom the artist has no perspective on his own work.

Good exhibition criticism examines, elucidates and evaluates the work on display for both the artist and the observer. It is a communication link that keeps the field in motion and the doors for growth open.—SB

Attending the '83 SNAG Conference in Asilomar June 8 through 12?

Don't miss the Revere Academy Post Conference Workshops in San Francisco.

1 & 2 Day Workshops begin June 13

Titanium, Niobium & Tantalum: Coloring and Manipulation—Edward deLarge
Metalmania—David LaPlantz
Mechanisms for Jewelry—Tim McCreight
Married Metals—Patty Daunis-Dunning
Hand Engraving—Alf Ward
Forging Jewelry Forms—Michel Royston
Refining Precious Metals—Frank Trozzo
Hydraulic Pressing for Jewelry—Dennis Toth
Granulation, Reticulation & Fusion—Alan Revere

4 & 5 Day Workshops begin June 20

Comprehensive Stone Setting—Frank Trozzo
Jewelry Repair—Alan Revere

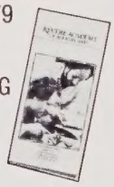
Regular Summer Program begins June 25

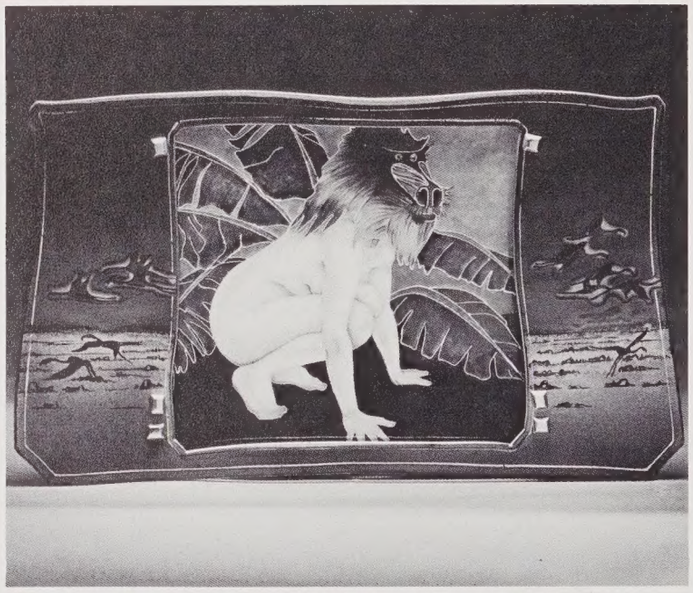
Jewelry Rendering, Advanced Rendering, Goldsmithing, Stone Setting, Pavé Diamond Setting, Advanced Setting, Super Setting, Wax Techniques, Jewelry Casting, Rubber Mold Making, Diamond Grading, Colored Stones Identification

REVERE ACADEMY
OF JEWELRY ARTS

760 Market Street, Suite 937
San Francisco, California 94102
Telephone: (415) 391-4179

Send for
FREE SUMMER CATALOG
Visitors welcome—
by appointment



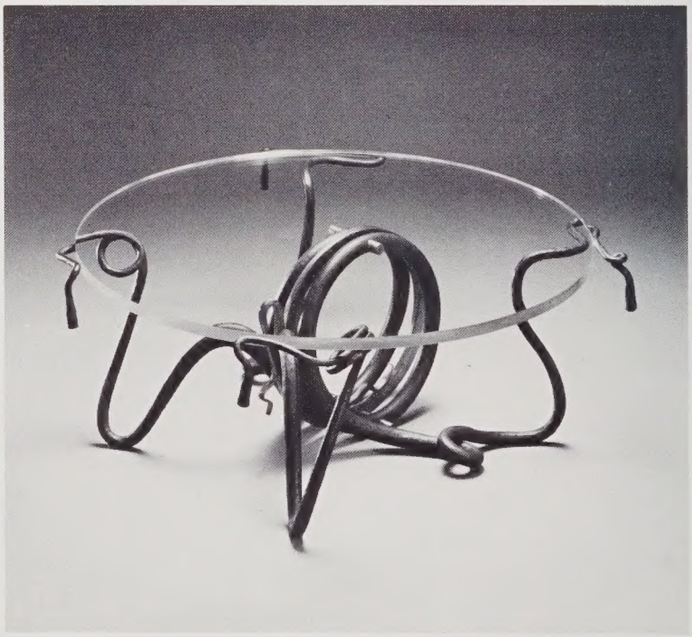


GAUDY FRAUD • WALLPIECE: ENAMEL AND COPPER
4½ x 7¼ x 1" Photo: Martha Banyas

concepts

CONCEPTS PRESENTS THREE ENAMELISTS:
MARTHA BANYAS • CONNIE BRAUER • KAREN BILGRAI
DECEMBER 3-JANUARY 5, 1982-3

concepts • 6th & mission • carmel, california



THOMAS R. MARKUSEN
METALSMITHING STUDIO

Designs in: Copper, Brass, Nickel, Silver, Gold and Steel. Specializing in production and limited editions, custom design and one-of-a-kind metalwork. Featuring candleholders, planters, vases, lamps, clocks, holloware, furniture, and ornamental ironwork.

For brochure and price list write:
Thomas R. Markusen
17218 Roosevelt Hwy., Kendall, N.Y. 14476
(716) 659-8001

Craftsmen... Discover the new technology that means business.

PRODUCTIVITY THROUGH TECHNOLOGY. That's the theme of the 1983 MJSA Convention and Supplier Expositions. And it's a clue to the wealth of information that each show will hold.

The world's leading suppliers to jewelry and silver/tableware manufacturers will be exhibiting at the Expos. Craftsmen, you can find out what's new and available in equipment, machinery and supplies — and there's no charge for advanced show registration. You'll also find timely educational courses sponsored by The Jewelry Institute of interest and value to you and your people.

It all adds up to an experience that will make your operation more efficient, more productive and more profitable.

Make plans now to come to the MJSA Expo of your choice and give yourself a competitive edge. An edge formed by the new technology that means new business.

Expo/New York

Features exhibits for precious and semi-precious jewelry.

February 27 11 am-7 pm
February 28 10 am-8 pm
March 1 9 am-4 pm

Sheraton Centre Hotel, New York City

Expo/Providence

Features exhibits for costume jewelry, semi-precious jewelry and silverware.

March 20 noon-6 pm
March 21 noon-9 pm
March 22 noon-9 pm
March 23 10 am-3 pm

Civic Center, Providence

Expo/West

Features exhibits for precious, semi-precious & costume jewelry and silverware located west of the Mississippi River.

April 17 noon-7 pm
April 18 10 am-8 pm
April 19 10 am-4 pm

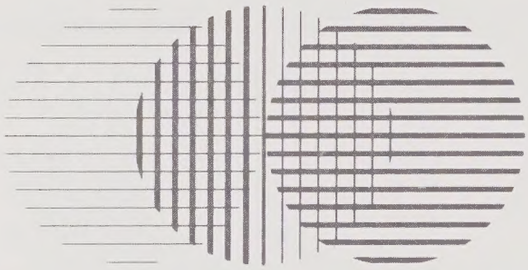
Westin Bonaventure Hotel, Los Angeles

Sponsored by:

Manufacturing Jewelers and Silversmiths of America Inc.
Biltmore Plaza
Providence, RI 02903
(401) 274-3840

PRODUCTIVITY THROUGH TECHNOLOGY

The Jewelry Institute's Educational Program



PRODUCTIVITY THROUGH TECHNOLOGY

Expo/New York

All seminars and workshops will be held at the Sheraton Centre Hotel, 7th Avenue at 52nd Street, NY.

SEMINARS

SN1
THE TECHNOLOGY OF COLORED GOLD ALLOYS
February 27, 1983 10:00 am-12:00 noon
Level: Advanced Cost: $20

SN2
THE SCIENCE OF PHOTO-ETCHING
February 22, 1983 2:00-4:00 pm
Level: Basic Cost: $20

SN3
MEETING YOUR COMPUTER NEEDS
February 28, 1983 9:00-11:00 am
Level: Basic Cost: $20

SN4
IMPROVE YOUR COLLECTIONS
February 28, 1983 2:00-4:00 pm
Level: Intermediate Cost:$20

SN5
POROSITY — THE CASTING NEMESIS
March 1, 1983 9:00-11:00 am
Level: Intermediate Cost: $20

WORKSHOPS

WN1
FUNDAMENTALS OF LOST WAX CASTING
February 26 & 27, 1983
9:00 am-3:00 pm
Level: Basic Cost: $100 Ten hours

WN2
INTRODUCTION TO WAX CARVING & DESIGN
February 27, 28, & March 1, 1983
9:00 am-3:00 pm
Level: Basic Cost: $150 Fifteen hours

WN3
PRINCIPLES OF FIRE ASSAYING
February 28, 1983 9:00 am-1:00 pm
Level: Basic Cost: $75 Four hours

WN4
HEDGING AND LEASING OF PRECIOUS METALS
February 28, 1983 2:00-5:00 pm
Level: Intermediate Cost: $50
Three hours

WN5
A NEW LOOK AT VIBRATORY FINISHING
March 1, 1983 9:00 am-12 noon
Level: Intermediate Cost: $50
Three hours

WN6
FURNACE SOLDERING
February 28 & March 1, 1983
9:00-11:00 am
Level: Intermediate Cost: $75
Four hours

Expo/Providence

All seminars and Workshop WP14 will be held at the Providence Civic Center, LaSalle Square. All other workshops will be held at The Jewelry Institute, 40 Sims Avenue, Providence, RI.

SEMINARS

SP1
THE SCIENCE OF PHOTO-ETCHING
March 20, 1983 10:00 am-12:00 noon
Level: Basic Cost: $20

SP2
NEW TECHNOLOGIES OF THE '80's
March 20, 1983 1:00-3:00 pm
Level: Basic Cost: $20

SP3
MECHANICALLY BONDED METALS
March 20, 1983 4:00-6:00 pm
Level: Basic Cost: $20

SP4
WASTE TREATMENT — THE NEW TECHNOLOGY
March 21, 1983 9:00-11:00 am
Level: Intermediate Cost: $20

SP5
AN INTRODUCTION TO PEWTER
March 21, 1983 2:00-4:00 pm
Level: Basic Cost: $20

SP6
MEETING YOUR COMPUTER NEEDS
March 21, 1983 7:00-9:00 pm
Level: Basic Cost: $20

SP7
IMPROVE YOUR COLLECTIONS
March 22, 1983 9:00-11:00 am
Level: Intermediate Cost: $20

SP8
HEDGING AND LEASING OF PRECIOUS METALS
March 22, 1983 2:00-4:00 pm
Level: Intermediate Cost: $20

SP9
POROSITY — The CASTING NEMESIS
March 22, 1983 7:00-9:00 pm
Level: Intermediate Cost: $20

SP10
VACUUM CASTING — THE PROCESS OF THE FUTURE
March 23, 1983 9:00-11:00 am
Level: Advanced Cost: $20

SP11
SECURITY — AN "ALARMING" EXPERIENCE
March 23, 1983 2:00-4:00 pm
Level: Intermediate Cost: $20

WORKSHOPS

WP1
FUNDAMENTALS OF ELECTRICAL DISCHARGE MACHINING (EDM)
March 19, 1983 9:00 am-1:00 pm
Level: Basic Cost: $75 Four hours

WP2
JEWELRY POLISHING
March 20, 21, 1983 8:00 am-12 noon
Level: Basic Cost: $100 Eight hours

WP3
HARD SOLDERING
March 20, 21, 1983 8:00 am-12 noon
Level: Basic Cost: $100 Eight hours

WP4
FIRE ASSAYING
March 21, 22, 1983 8:00 am-12 noon
Level: Intermediate Cost: $125 Eight hours

WP5
HARD FIRED ENAMELING
March 20, 21, 1983 1:00-5:00 pm
Level: Basic Cost: $100 Eight hours

WP6
WAX CARVING FOR LOST WAX CASTING
March 21, 22, 1983 8:00 am-12 noon
Level: Basic Cost: $100 Eight hours

WP7
WORKING WITH REFRACTORY METALS
March 21, 22, 1983 1:00-5:00 p.m.
Level: Basic Cost: $100 Eight hours

WP8
WHITE METAL MOLD MAKING
March 21, 22, 1983 6:00-10:00 pm
Level: Basic Cost: $100 Eight hours

WP9
DIAMOND AND STONE SETTING
March 21, 22, 1983 6:00-10:00 p.m.
Level: Basic Cost: $100 Eight hours

WP10
DECORATIVE EPOXYING
March 21, 22, 1983 6:00-10:00 pm
Level: Basic Cost: $100 Eight hours

WP11
HAND ENGRAVING
March 21, 22, 1983 6:00-10:00 pm
Level: Basic Cost: $100 Eight hours

WP12
PRINCIPLES OF ELECTROPLATING
March 21, 22, 1983 6:00-10:00 pm
Level: Basic Cost: $100 Eight hours

WP13
FURNACE SOLDERING
March 21, 22, 1983 9:00-11:00 am
Level: Intermediate Cost: $75
Four hours

WP14
A METALLURGICAL EVENING WITH PETER GAINSBURY
March 21, 1983 6:00-10:00 pm
Level: Advanced Cost: $50 Four hours

Expo/West

All seminars and workshops will be held at the Westin Bonaventure Hotel, Fifth & Figueroa Streets, Los Angeles.

SEMINARS

SL1
MARKETING YOUR LINE
April 17, 1983 10:00 am-12 noon
Level: Intermediate Cost: $20

SL2
THE SCIENCE OF PHOTO-ETCHING
April 17, 1983 2:00-4:00 pm
Level: Basic Cost: $20

SL3
IMPROVE YOUR COLLECTIONS
April 18, 1983 9:00-11:00 am
Level: Intermediate Cost: $20

SL4
VACUUM CASTING — THE PROCESS OF THE FUTURE
April 18, 1983 2:00-4:00 pm
Level: Advanced Cost: $20

SL5
PROPER HANDLING OF GEMSTONES
April 19, 1983 9:00-11:00 am
Level: Basic Cost: $20

WORKSHOPS

WL1
INTRODUCTION TO WAX CARVING & DESIGN
April 16-18, 1983 10:00 am-4:00 pm
Level: Basic Cost: $150 Fifteen hours

WL2
PRINCIPLES OF ELECTROFORMING
April 17, 18, 1983 1:00-4:00 pm
Level: Basic Cost: $100 Six hours

WL3
PRINCIPLES OF FIRE ASSAYING
April 18, 1983 9:00 am-1:00 pm
Level: Basic Cost: $75 Four hours

WL4
HEDGING AND LEASING OF PRECIOUS METALS
April 18, 1983 2:00-5:00 pm
Level: Intermediate Cost: $50
Three hours

WL5
LOST WAX CASTING
April 18, 1983 2:00-5:00 pm
Level: Advanced Cost: $50 Three hours

WL6
A NEW LOOK AT VIBRATORY FINISHING
April 19, 1983 9:00 am-12 noon
Level: Intermediate Cost: $50
Three hours

WL7
FURNACE SOLDERING
April 18, 19, 1983 9:00-11:00 am
Level: Intermediate Cost: $75
Four hours

Call or write for complete information.

Name _____

Company _____ Telephone _____

Address _____

City _____ State _____ Zip _____

Nature of Business _____

MJSA/The Jewelry Institute
The Biltmore Plaza, Providence, RI 02903
Telephone (401) 274-3840

COURSE LEVEL DESCRIPTION
Basic — will cover subject fundamentals.
Intermediate — implies a working knowledge of the subject matter.
Advanced — requires complete knowledge of subject matter.

Hephaestus

God of Fire and Metalsmithing

by Philip Morton

Although a statue of Hephaestus stands in the lobby of Goldsmiths' Hall in London, I suspect that this god of fire and metalsmiths is not well known in America. And because I have always felt it was important to acknowledge the dignity and value of the artist-craftsman who works in metal, I wish to convey a more intimate knowledge and understanding of this great god. First of all, let me present the hymn with which the ancient Greeks worshipped Hephaestus:

Sing, clear-voiced Muse, of Hephaestus,
renowned for his skill
Who with gray-eyed Athene taught to men
upon earth
Arts of great splendor, men who in former
days lived
Like wild beasts in caves in the mountains.
But having learned skills
From Hephaestus, famed for his craft, they
now, free care,
Tranquilly live out their lives year by year
in their houses.
Be gracious, Hephaestus, and excellence
grant with your bounty![1]

Hephaestus and the Cyclopes forging the Shield of Achilles, watched over by Athena and Hera; bas relief, (Palazzo del Conservatori, Rome)

A founding member of the Society of North American Goldsmiths, Philip Morton is presently working as a psychotherapist in Montana and is also a watercolorist. While not actively pursuing jewelry, he maintains an interest in the study of art and craft.

From this hymn we see that Hephaestus was regarded as a cultural hero who brought civilization to ancient peoples. And this takes us back to the times when iron had just been discovered—in about 2000 BC. The oldest known work of iron shaped by hammering was found in Egypt—a dagger made before 1350 BC, believed to be of Hittite workmanship. The use of smelted iron ornaments and ceremonial weapons became common somewhere between 1900 and 1400 BC. These are the bare historical facts about the beginning of the Iron Age. What is not widely known is that iron was regarded as a divine, magical metal. The earliest that was found and used was meteoric iron. And since, in those days, everything was regarded from a sacred point of view, it was believed that meteoric iron came from heaven and was therefore divine. Later, of course, early metalsmiths learned to mine and smelt iron ore. But this process, too, was regarded as magical, for what those ancient metalsmiths did was accelerate the natural process of the Earth Mother by smelting and refining earthly ores into metal.

Precious stones and all the metals, such as gold, silver and copper, as well as iron, were regarded as having been born in the womb of Mother Earth, where they underwent a process of growth in which ordinary dirt turned into metals and those, gradually, into fine metals. Precious stones, too, were born of rocks. These organic processes were accelerated by the ancient metalsmith who became known as a magical *maker.* This magical power connected the mythical metalsmith to the Shaman and the Medicine Man, as demonstrated by an old Yakut saying: "Shamans and smiths come from the same nest."

Since all of these activities of the metalsmith were sacred and magical, a great body of rites and ceremonies arose. Each process of mining, smelting, forging and hammering called for appropriate religious rituals based upon the worship of the mythical god of fire and metalwork. And this mythical smith was thought to have magical powers of transformation which were attached to the tools and weapons he made. But he was more than a metal craftsman and magician: In the words of Micea Eliade, the great religious historian:

There would appear to have existed, therefore, at several different cultural levels (which is a mark of very great antiquity) a close connection between the arts of the smith, the occult sciences (shamanism, magic, healing etc.,) and the arts of song, dance, and poetry. These overlapping techniques moreover appear to have been handed down in an aura of sacred mystery comprising initiations, specific rituals and "trade secrets."[2]

Thus we can see the breadth of power possessed by this ancient mythical metalsmith, the *archetype,* the inner, psychic *image* of the culture-builder-metalsmith which has a collective existence in the human psyche. And it is important for contemporary metalworkers to realize that they are incarnating that same archetypal image of the mythical metalsmith—of whom Hephaestus is the Greek image, Vulcan the Roman. I make this careful distinction between the archetype of the mythical metalsmith and the Greek image of Hephaestus, because the latter image has suffered considerable diminution and distortion at the hands of Homer, who wrote and rewrote all of the ancient myths to exalt the power of Zeus and his patriarchal order on Olympus. The greek myth of Hephaestus, as told by the great Greek mythologist, C. Kerenyi makes this point more clearly.

When Zeus bore Athene and she sprang, full grown and dressed in golden armor, from his head, Hera, his sister-wife was filled with rage that he had brought forth a child independently of her. Vowing to mother a child of her own without the participation of Zeus, she brought forth Hephaestus. But Hephaestus was born with deformed feet, something of a dwarf in stature, though with powerful shoulders and arms. He could not walk in a normal way but waddled from side to side, amusing the gods and goddesses of Olympus. Hera felt that Hephaestus was a disgrace in comparison with Athene, so she threw him out of Olympus.

For a long time Hephaestus fell through the air. He finally landed in the sea, where he was rescued by a great sea-goddess by the name of Eurynome, a mermaid, half fish and half woman. She, with Thetis, another such goddess, cared for him and raised him at the bottom of the sea. For nine years Hephaestus lived there, making jewelry for his foster mothers. Thereafter he moved to the island of Lemnos where he set up his forge beneath a volcano. And there he lived in seclusion except for his helpers, the Telchines. (These people, a mythical race of ancient metalsmiths were to have been the first to work in bronze and iron. And here we see one reference in the Greek myth to that ancient archetypal metalsmith that we have told about.) Hephaestus, angry at Hera for her treatment of him, refused to live on Olympus, claiming that he had no mother. And once, when Zeus asked him to make thrones for all the gods and goddesses, he made one for Hera which seized her when she sat on it, and swung her upside down in the air. Hephaestus refused to release her until Zeus gave him Aphrodite for his wife. Of course Aphrodite never acquiesced to be anyone's wife, so Hephaestus finally married Aglaia, one of the three graces.

Hephaestus spent most of his time in his workshop under the volcano on the island of Lemnos where he forged marvels for all the gods. As an architect and builder he made palaces for each of the gods and goddesses on Olympus. He made armor and weapons. He made young maidens of gold who could move, talk and act as servants (forerunners in fantasy of robots?). He made a marvelous suit of armor for Achilles at the request of his foster mother Thetis that is vividly described in the eighteenth book of the *Iliad* of Homer.

First of all he forged a shield that was huge and heavy elaborating it about and threw around it a shining triple rim that glittered, and the shield strap was cast of silver. There were five folds composing the shield itself, and upon it he elaborated many things in his skill and craftsmanship.

He made the earth upon it, and the sky, and the sea's water, and the tireless sun, and the moon waxing into her fullness, and on it all the constellations that festoon the heavens, the Pleides and the Hyades and the strength of Orion and the Bear, whom men give also the name of the Wagon who turns about in a fixed place and looks at Orion and she alone is never plunged in the wash of the Ocean.

On it he wrought in all their beauty two cities of mortal men. And their marriages in one, and festivities. They were leading their brides along the city from their maiden's chambers. Under the flaring of torches, and the loud bride song was arising. The young men were following the circles of the dance, and among them the flutes and lyres kept up their clamour as in the meantime the women standing each at the door of her court admired them.[3]

This description of repoussé goes on for four pages, but the excerpt conveys the complexity of the shield. And from it we have a fair idea of the skill of Hephaestus as an armorer and worker of gold, silver and iron.

I have mentioned the diminution and distortion which the image of Hephaestus suffered at the hands of Homer. His ancient mythical power has been stripped from him, and he is ridiculed. In another story, Zeus himself banishes Hephaestus from Olympus when he comes between Zeus and Hera in one of their disputes. And so we see that Hephaestus is the child rejected by both his parents and thrown out of the heavenly Olympus. This mythical episode expresses the psychological fact that the child born of rejecting parents falls from the security of the loving home into the unconscious where a more ancient mother loves and cares for him. As a result of this episode, Hephaestus becomes a deeply introverted god, living in seclusion to a great extent, staying in his own workshoip where he creates many beautiful works. He is also a deeply intuitive god, and one who has a close connection to the Great Mother. Shunning the society of Olympus, he expresses his anger toward his parents by pounding his hammers on his anvil.

Now, I'm not certain whether all goldsmiths, silversmiths and ironworkers are of this psychological type. But I can tell you that Hephaestus, god of metalsmiths, was of this nature, and it is likely that a great number of metalsmiths are similar. To fall from Olympus is to fall from the world of the patriarch. And to fall into the ocean is to fall into the unconscious world of the feminine "mothers." And thus we see that Hephaestus is blessed with the creativity of the artist and craftsman and architect—as culture builder. Jungian psychologists acknowledge that all creativity comes from Mother Nature, or from the feminine unconscious. Thus we see that Hephaestus is a child of the matriarchy rather than of the patriarchy. This is why he does not belong on Olympus.

This is also why most artists and metalsmiths never really feel a sense of belonging to the establishment world of the patriarch, belonging instead to the feminine source of creativity. Such people form the sub-culture world of the artist and craftsman. In earlier decades of this century, this sub-culture was more strongly isolated—as an "island of Lemnos"—from the establishment. But over the past 40 years, at least, a gradual appropriation of all sub-cultures by the mass-culture has occurred. And we have found this to be true of all artists and craftsmen in general. Something else has been happening in our culture: The rigid, established patriarchal order has been breaking down little by little, especially in human relationships, and the fantasies which spring from the feminine unconscious, antithetical to the masculine code of rationality and science, have been finding expression in lifestyles as well as in art and the crafts. This represents a movement towards a new synthesis between masculine and feminine; and, no doubt, the god of Hephaestus will continue to play an important role in the growing popularity of metalsmithing. Hephaestus! In the name of all metalsmiths, I salute you! ■

Notes:

1. Thelma Sargent, *The Homeric Hymns* (NY: Norton, 1975)
2. Mircea Eliade, *The Forge and the Crucible,* 2nd ed. (Chicago: University of Chicago Press, 1979), p. 99
3. Richmond Lattimore, tr., *The Iliad of Homer* (Chicago: University of Chicago Press, 1977), Book 18, lines 478 ff.

The myth of Hephaestus may be found in authentic form in C. Kerenyi's *The Gods of the Greeks* (NY: Thames & Hudson, 1980)

Master Metalsmith **Alma Eikerman**

by Lynda LaRoche

Alma Eikerman is an intrepid explorer. With tremendous courage she has committed herself to an adventure in the world of art. Her curiosity has taken her around the world in pursuit of answers to questions which have stimulated her for more than 40 years. Alma's jewelry design and metalsmithing mark the course of that search. Her decision to work in a unique way is the result of her response to specific needs at a particular time. She expresses her sense of design not only in her metalwork but also in the way she lives her life.

Alma began her artistic search in the 1940s at a time when both metalsmiths and women artists were a rarity in the United States. She was introduced to metalsmithing in 1948 when she was accepted into the second of a series of smithing workshops sponsored by Handy & Harman, a New York-based metal supplier and refining company. Although a jewelry designer at the time, Alma wanted more expertise in forming. The one-month workshop was taught by Baron Erik Fleming, court silversmith to the King of Sweden. This brief study of stretching metal sparked her enthusiasm for holloware. During this period, Alma asserts that there were few places where one could study metalsmithing in the United States. However, despite this she felt an urgency to pursue metalworking. Therefore, in 1951, inspired by Baron Fleming's workshop, she took a leave of absence from Indiana University in Bloomington, where she had been teaching jewelry design and metalsmithing since 1947, to study in Denmark and Sweden. "It was the best place to learn, given the beauty of true designing that existed in the late 40s and 50s. Crimping, stretching, Dutch bending, seaming and forging are the processes which metalsmiths all over the world know. Each factory—all handmade work at that time—may have had a few unique ways of doing a given process, but these are world-known processes. They are universal."

Alma arrived in Copenhagen on a Friday in May and spent the weekend surveying silver shops. To her amazement it appeared that every other window in downtown Copenhagen had handmade sterling silver on display. She was especially drawn towards the simplicity of Karl Gustav Hansen's designs in the shop of Hans Hansen and was determined to see Hansen early Monday morning about working in his factory. When she arrived at Hansen's shop without an appointment, she found that he had walked out the door a few minutes earlier. Reacting quickly, the shopkeeper ran out into the street to intercept him. Fortunately he found him and brought him back, since Hansen was in Copenhagen for only two or three days out of each month. As Alma and Hansen began to talk, he was struck by her spontaneity and her urgency to develop her own concepts. Incredibly, Hansen made the decision to accept her into his factory based on a review of Alma's "portfolio," which consisted of only three photographs. He turned to Alma and asked, "Can you be ready to go to Kolding by 5:00?" The production factory for the Copenhagen shop was located in the town of Kolding. Alma's faith in her ability to discover opportunities in Europe was confirmed. After only three days she had found what she was looking for in Copenhagen, despite the fact that she knew nothing about Hansen before their meeting.

Lynda LaRoche maintains a studio in Bloomington, Indiana, where she designs and produces jewelry and holloware. Her association with Alma Eikerman began eight years ago when she was a graduate student at Indiana University.

The excitement, energy and sheer intensity of feeling I get from practicing and teaching the art of metalsmithing and jewelry design has sustained me all these years. Involvement with concepts and the stimulation of experimentation, investigation and development within my own ideas of form, plus lots of travel have given me a full life. I cannot imagine a life without such hard work, excitement and adventure. Alma Eikerman

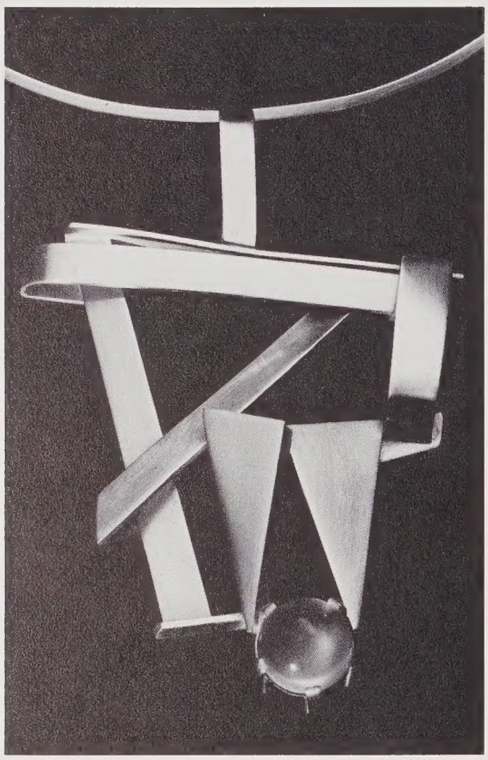
The opportunity to work in a factory geared towards commercial products was an exciting prospect for Alma, because formerly all of her training had been in schools and short-term demonstration workshops. She recognized that under Hansen's direction commercial production of metal objects in a factory setting did not necessarily result in inferior works of art. On the contrary, Hansen's reputation was based on a high standard of design matched by an equally high standard of craftsmanship. To fail to maintain his own standards would have been unsatisfactory to Hansen the artist as well as Hansen the businessman. He achieved what many Art Nouveau and Bauhaus theorists advocated: a combination of high-quality artistry with the efficiency of the factory.

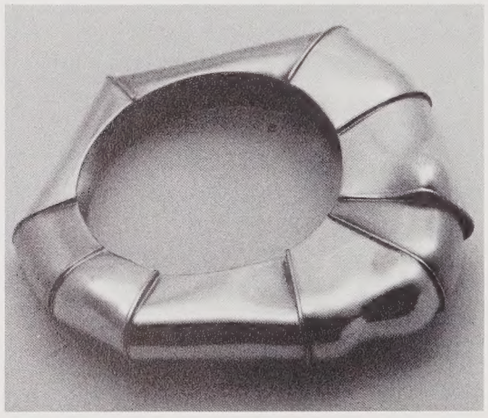
During the four-and-a-half months that followed, Alma concentrated on learning to crimp under the tutelage of Hansen's master metalsmith Henrik Boesen. Hansen anticipated that Boesen would set the powerful pace needed by an inexperienced but determined artist like Alma. He was right. Alma worked hard to absorb specific skills from the vast store of knowledge around her, recognizing that such skills would be invaluable to her in the future.

Alma's training, as brief as it was at Hansen's, was similar to that of a factory apprentice. After completing her first piece, she was instructed to duplicate it to the millimeter without any assistance. This type of repetition and mastery of technique was vital to her foundation. Once she gained confidence with her medium she would no longer be limited in her vision. In Hansen's factory, where everything was handmade, Alma was free to design her own pieces. Hansen came into the shop each day, which gave Alma time to discuss design or to ask him technical questions. Her role, however, was not to produce Hansen's designs, but to absorb traditional methods of smithing to translate those techniques in an experimental manner.

The most significant object that Alma produced at Hansen's factory was a sterling silver mocha pot. This piece was ambitious for a person who a few months earlier had had no knowledge of crimping. Alma not only mastered crimping quickly, but she also successfully assembled multiple units by applying complex soldering techniques. The separate elements, such as spout, handle, lid and base, became unified components in a singular statement of form. This early holloware piece exemplified Alma's concern for form and function. Venturous experiments in form could then be entertained for she had gained confidence in the basics of smithing.

Immediately following her work with Hansen, Alma left for Stockholm to continue her education in stretching metal with Baron Erik Fleming. While teaching the Handy & Harman workshop in 1948, Fleming had extended an invitation to the participants to visit his atelier. Alma not only wanted to visit, but she also intended to stay and work. The experience with Hansen and his craftsmen had equipped her to benefit from an additional factory experience. She arrived in Stockholm in September with enthusiasm and confidence.



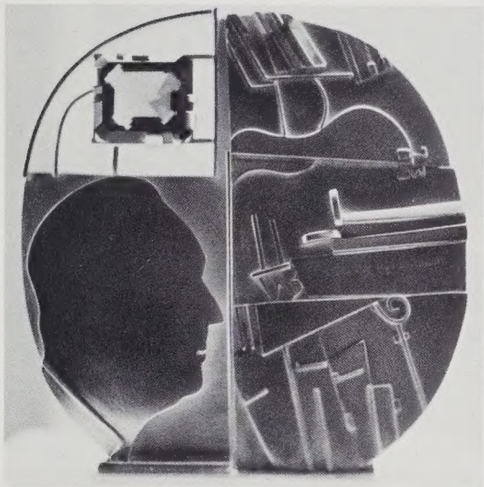


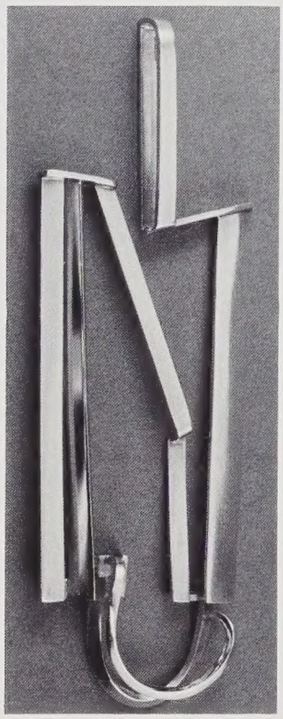
Since Alma had stretched a few pieces by this time, she wanted to design something larger. One of the designs being produced in Fleming's atelier was a cocktail shaker. Using the same approach to produce a cylinder, Alma designed an asymmetrical pitcher, pushing the application of technique beyond the obvious. This necessitated off-setting the bottom to give her more metal on one side of the pitcher which allowed her to angle raise it higher than the other. Her unusual design approach gave her a chance to pose more complex technical problems while she had access to craftsmen who were accustomed to finding solutions. She recalls the difficulty she had moving the metal when she first began. After it was stretched to the basic shape, she began angle raising on the outside of the form, but she wasn't able to easily stretch the metal. The master craftsman told her to watch while he hammered; after one round the metal was raised an astounding half inch. Alma realized that it would take years of experience to master stretching. She learned from this example and still today applies the skill of hammering with a heavy hammer. Once she had gained control, the weight of the hammer provided increased momentum for stretching. The mark of a master metalsmith is the ability to move the metal where and when it should be moved with the appearance of ease. Although at this stage Alma may still have been limited by her technical knowledge, her advanced sense of design freed her to create new forms in metal.

Following her intense work in Scandinavia Alma arrived in Paris in late December. She also intended to find a jewelry firm in which to work there but was unsuccessful. Nevertheless, Paris offered her alternative experiences. She knew, as did most American artists, that Ossip Zadkine and Fernand Léger had established schools in Paris where one could study. Being interested in sculpture, she made arrangements to study with Zadkine. He accepted her even though he didn't know why a jeweler would be interested in studying with a sculptor. Zadkine kept referring her to sculptors who made jewelry; he didn't take seriously her concept of making jewelry sculptural. "I've always been interested in sculpture, but only from a learning process. I never really wanted to make sculpture. I feel as though jewelry must go beyond decorating to include line, space, volume and all the elements that create a timeless piece of art. Jewelry is decorative, but that is no reason to take it less seriously than any other art form or to mass produce one idea."

When recently asked if she were an artist or a craftsman, Alma responded, "I'm an artist. Potters are artists. We're all artists. Just as all painters are craftsmen. There is as much craftsmanship involved in painting or sculpture as there is pottery or jewelry. Any distinction that labels painters and sculptors 'artists' and the rest of us 'craftsmen' is just derivative and only defines the medium in which you work." Zadkine saw Alma as a jeweler. Fleming and Hansen saw her as an artist. Alma saw herself as a collector, absorbing what interested her and defining its use later. Whether she made jewelry, holloware or sculpture was not the issue for her. Alma made contact with these artists and craftsmen in order to learn what each had to offer in his own medium. She was searching for a personal experience from which to formulate her own style.

Top *Pendant,* sterling silver with moonstone, 1980. Photo: John Littleton. **Above** *Bracelet,* sterling silver and red brass, 1980. Photo: Jack Pinto Silva





Top *Bracelet,* sterling silver, formed and constructed: 1½ x 3", 1968. Johnson Wax Collection, Smithsonian, currently in the American Craft Museum, New York City
Center *Plaque,* sterling silver with smoky topaz, 1978. Collection: Dean Wilfred Bain
Above *Pendant,* sterling silver, 1980. Private collection. Photo: Lynda La Roche

Alma's sense of design has dominated her way of life. A major example of her application of design beyond metalsmithing occurred 20 years ago when she designed her own home. Most recently, during the spring of 1981, she designed and completed a new addition to the original structure. A similarity exists between her metalwork and the original house, while the new addition reflects her current attitudes about design. Alma describes her jewelry as an art of open, continuous forms in space. Her house reflects these ideas in the use of open-beamed cathedral ceilings, free-standing walls and glass which penetrates solid masses. The result is a continuous flow of space; one area leads to the next uninterrupted.

The original structure is contained within a rectangular space. The new addition breaks away from the conventional rectangle, a surprising arrangement of shapes and angles. The new structure gives the viewer freedom to explore spaces not dominated by right angles. Similarly, in Alma's new holloware, she intends to cut into the forms, break them up, segment them just as she has cut into the rectangular form of her house. More diagonals are used in her new addition, created by changing ceiling levels. In Alma's new work she is concerned with the tension that diagonals create. She sees her jewelry becoming more angular, utilizing more parts, resulting in a more complicated design while maintaining a simplicity. Components are selectively chosen. Only what is necessary is used.

During the 1940s Alma felt that metalwork as well as other craft objects were regarded primarily as utilitarian. She is excited by the innovation evident in new jewelry and holloware, but insists it must have form. "Art has to have form like a written essay has to have form, it has to say something."

Alma seeks opportunities to improve her metalwork. Of particular importance since 1942 has been her participation in competitions. In these Alma has revealed some of her most original designs. Despite receiving many awards in these competitions, she is still attempting to surpass previous accomplishments. In addition to competitions Alma has sought public exposure for her designs by accepting jewelry commissions. Her work has been collected internationally even though she remains selective in choosing which commissions she will produce, seeking to please herself initially.

While competitions and commissions are important opportunities for Alma to express herself, they aren't as important as a fundamental urge which has sustained her for many years. She has to remain constantly active in her work. Alma says with conviction, "I couldn't keep from making (a work of art). That's why I keep on producing. Artists can't keep from making things."

What new directions will her work take? In the 1980s, color, mixed metals, texture and new interpretations of her experimental research projects will begin to appear. She hopes to work in niobium, for example, because of its maleability. She intends to use it in the forming of jewelry and holloware and to experiment with its color potential, because Alma sees herself as a colorist.

Many of Alma's ideas developed in the 1950s still motivate her today. This is not a reflection of an unwillingness to change but rather an indication of the convictions that have sustained her in her work. Her approach to life has kept her vital and alive in her thinking about design. "I feel good about the continued direction of my creative work. Perhaps it is because I think of a work of art as a search, a question more than an answer. I am never quite satisfied with my pieces, but there are certain pieces which are good and timeless within my own 20th-century concept. In time, it is only the pieces you create that count. It is the one influence you leave behind." ■

On View

Outstanding work of students graduating from college and university degree programs in metalsmithing and jewelry design throughout North America. An ongoing series. Program descriptions were furnished by participating schools.

University of Illinois at Urbana-Champaign

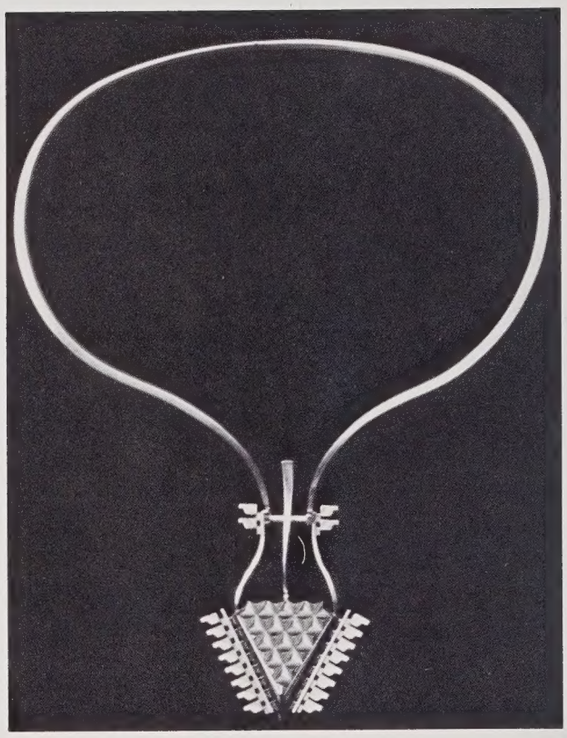
The metalsmithing program at the University of Illinois is geared to providing the student with an artistically stimulating environment, both at the graduate and undergraduate levels. Our philosophy is one of providing an environment conducive to strong personal artistic growth, without forcing upon the student an established style or direction.

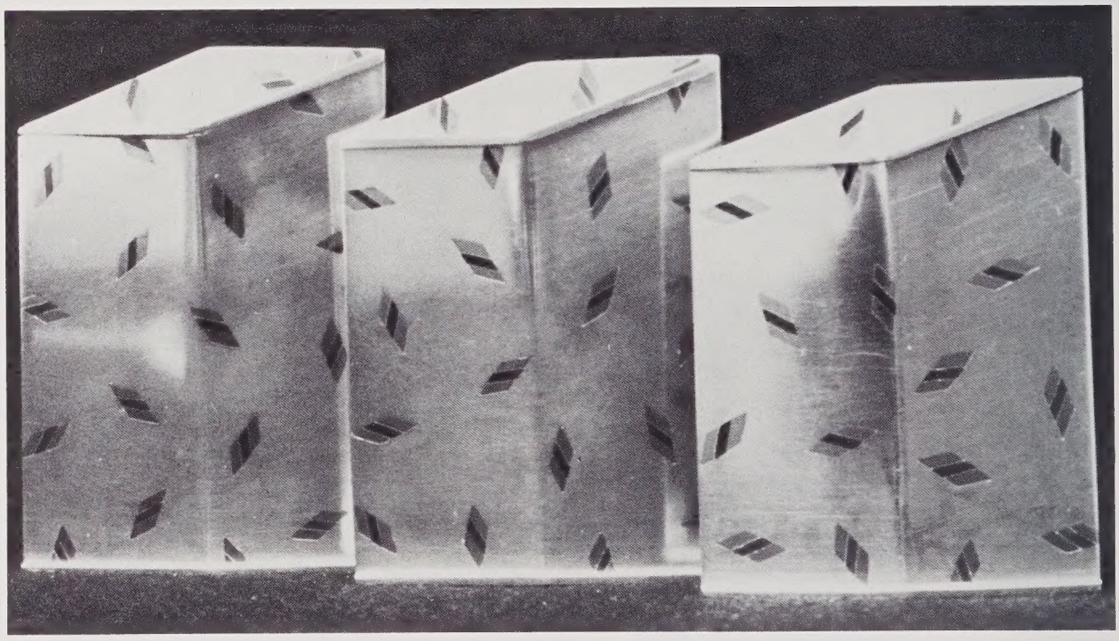
The B.F.A. with a major in metals is offered at the undergraduate level, and the graduating senior is expected to participate in the annual crafts senior show.

We currently offer studio space for two M.F.A. candidates who are supported by Teaching Assistantships. The candidate's Thesis Show is held in Krannert Art Museum, one of the fine University Art Museums in the country.

The metals studio itself provides the student with over 2,500 square feet of space divided into four rooms. The shop is very well equipped and maintained. Last, but not least, the Art Department itself offers a high degree of interaction between disciplines and coupled with the University's vast cultural programs provides a highly refined setting for the aspiring metalsmith.

Jewelry/Metalsmithing Department
University of Illinois at
Urbana-Champaign
143 Fine and Applied Arts Building
Champaign, IL 61820
Telephone: (217) 333-0855
Robert von Neumann
Alan Mette





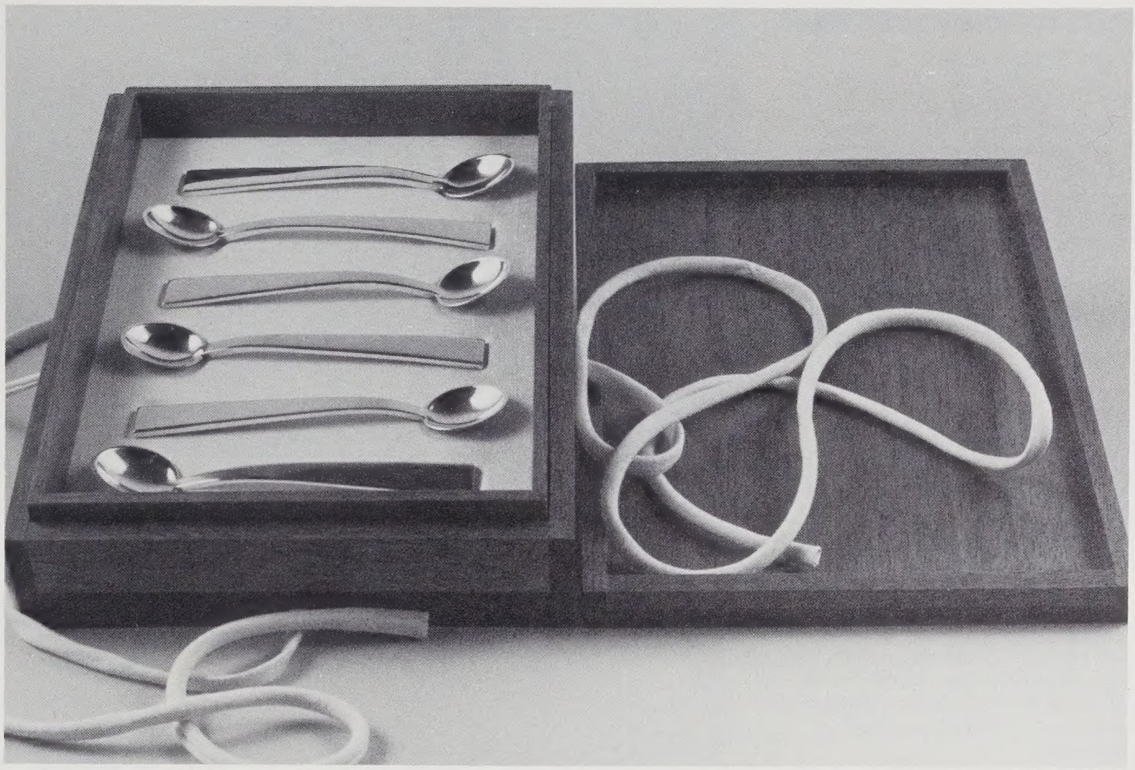
Top left Gail Loveman, *Salt and Pepper Shakers with Containers;* sterling and titanium, 4½ x 6½ x 4½". **Top right** Joel Peterson, *Pendant,* sterling, gold plate, cast, fabricated. **Center** James Hopfensperger, *Compression Series Serving Vessels,* sterling, nickel silver and copper. **Above** Theresa Grabowski, *Dinner Bell,* sterling with walnut handle, 3½ x 5"

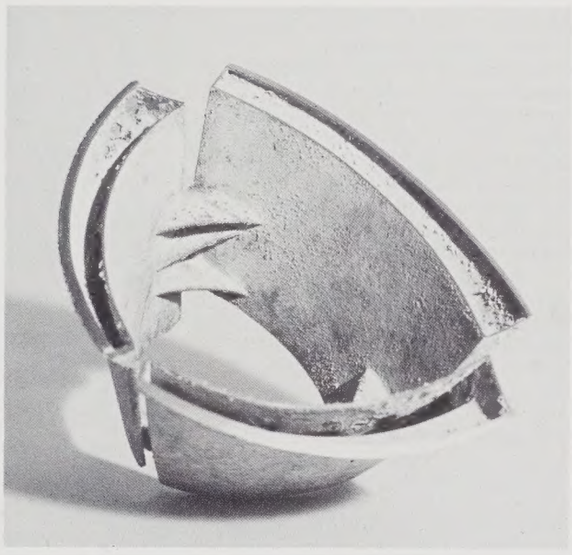
Cranbrook Academy of Art
The course of study in metalsmithing is based upon the extended observation that esthetic innovation grows out of a profound inquiry into the ethical and mechanical principles selected by antecedent artisans. To this end—to provide personal authority and a basis for intelligent evaluation of one's own efforts—initial studies are devised to provide an objective vocabulary of skill, knowledge and information, components which, in turn, are conducive to the freedom necessary to independent subjective creative competence.

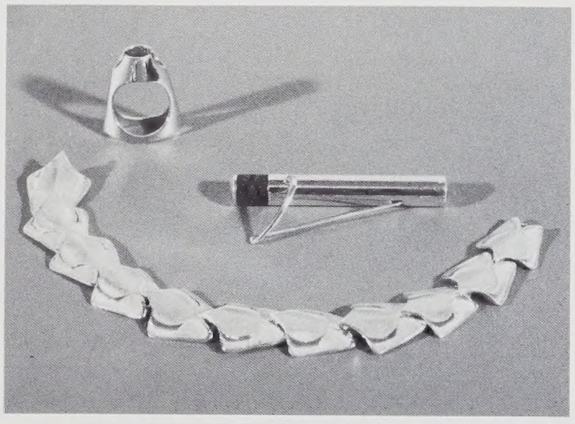
During the first year at the Academy, students follow a course of study devised to assure basic competence in a variety of metalsmithing techniques: forming, joining and surface embellishment. Formal instruction is conducted through lecture demonstrations. While assignments may be made, the end product is not defined. Criticism is informal and individual. Second year students confer with the instructor in selecting a specific segment of metalsmithing practice for examination. They use the resources available to pursue that interest, eventually preparing an authoritative paper on the subject. A library of theses, produced by past students, is available in the studio. Field trips to the studios of prominent metalworkers, as well as Academy visits by distinguished craftsmen, are an integral part of the department's instructional process.

The metalsmithing studio is divided into eight areas devoted to specific functions: raising and forging, machine tools, buffing and polishing, annealing and soldering, casting and burnout, individual bench space, abrasive tools, inventory supplies and space for photographic record and thesis preparation equipment. Each student is provided with a bench with adequate lockable storage space. The department maintains an excellent supply of chemicals, casting waxes, sprues, plaster, precious and nonprecious metals and stones. A local distributor will supply materials not kept in the department on a day's notice.

Metalsmithing
Cranbrook Academy of Art
500 Lone Pine Road
P.O. Box 801
Bloomfield Hills, MI 48013
Telephone: (313) 645-3340
Richard Thomas







Top Susan Gawecki, *Demitasse Spoons,* sterling, walnut box and silk. **Above left** James F. Starr, *Bottle,* raised bronze, top fabricated, 11", 1981. **Center right** Alan Perry, *Glen Bud Vase,* bronze with patina, masonite die formed. **Above right** Joan Avis, *Bracelet,* cast sterling; *Ring,* 14K gold and green tourmaline, *Fibula Pin,* sterling and mahogany obsidian

Tyler School of Art
At Tyler, one of the 14 colleges of Temple University, students can take advantage of all the resources of a major urban university. Because Tyler is situated on an independent campus in suburban Elkins Park, the student also experiences the intimacy of a small art community. We stress a concern for the craft of the professional artist, personal development and informal, friendly relationships between students and faculty.

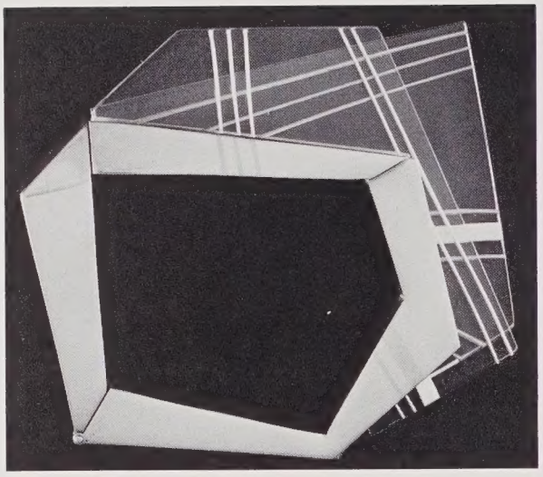
The school's location in the New York-Washington D.C. corridor is a notable asset to the jewelry student wishing to gain experience in the jewelry industry, as a large proportion of the industry is located in this region. Graduates of this program are in an advantageous position to explore numerous employment possibilities. Additionally, the art collections of Philadelphia, New York and Washington are not only easily accessible, but Tyler's opportunity to draw guest artists and related educational programs from these art centers is unlimited.

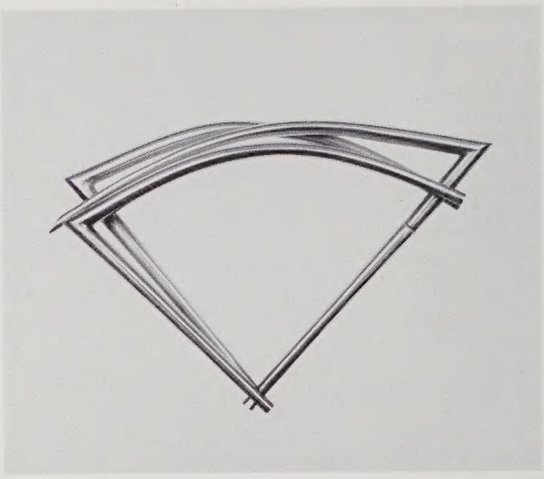
The faculty emphasizes traditional techniques and materials in relation to their historical significance to the goldsmith's art. Advanced students are encouraged to utilize technologies recently introduced to the field. The department offers students exceptional studio facilities, including a complete machine shop, a fully equipped electroforming and photoprocess laboratory and extensive plastic-working facilities.

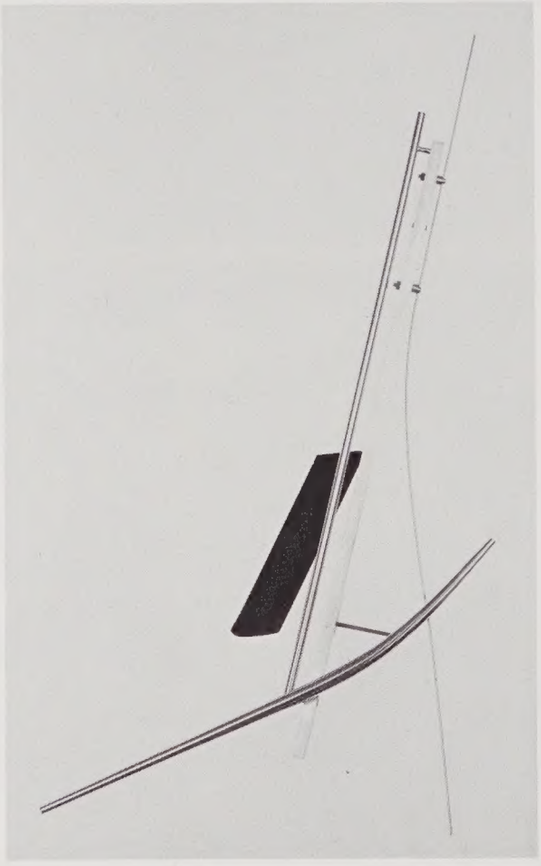
A broad curriculum is offered which includes a number of very specialized courses, such as Machine Tool Technology, Presentation Drawing, Lapidary, Stone Setting, Electroforming, Photoetching, Plastics for Jewelry, and Business Practices for the Metalsmith. It is recognized by the faculty that along with the development of a personal esthetic, an important part of the educational process is the student's preparation for existence as a working artist. In the Metals Seminar students explore opportunities for employment in industry, business and academia, as well as those skills necessary for successfully establishing independent studio production. An extensive collection of student-prepared slide/tape interviews of leading professionals in the metals field are used to augment discussions of the options available to emerging artists.

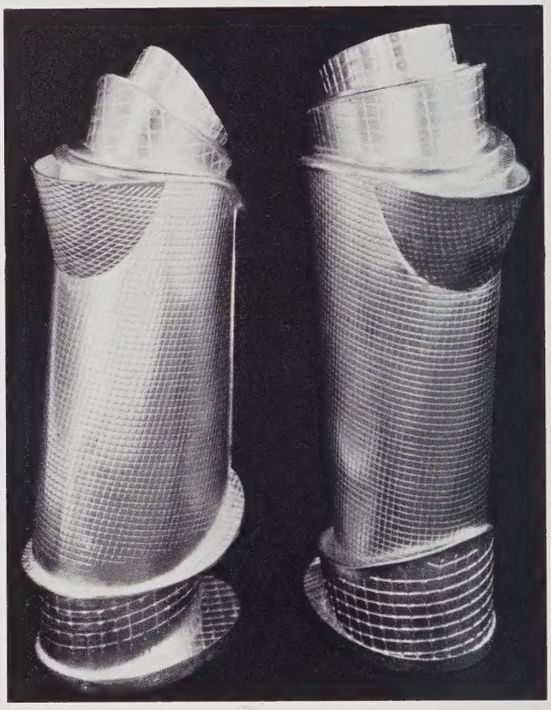
The graduate program at Tyler, which generally enrolls 11 students, accents the close working relationship between faculty and students. Therefore seven-and-one-half hours a week are set aside for graduate students in metals to meet with the faculty. This insures graduate metals majors adequate time to address their individual and collective needs.

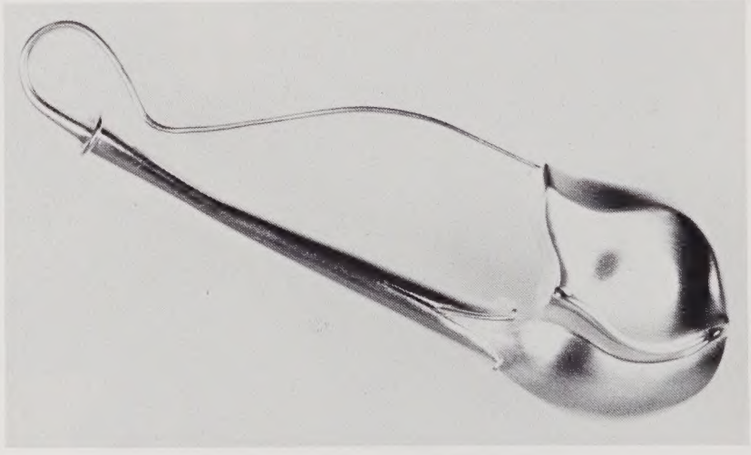
Jewelry and Metalsmithing Dept.
Tyler School of Art, Temple Univ.
Beech and Penrose Avenues
Elkins Park, PA 19126
Telephone: (215) 224-7575
Stanley Lechtzin, Vicki Sedman, Daniella Kerner











Top left Joanne Sampey, *Bracelet,* sterling and laminated acrylic. **Top right** Roy A. Heymann III, *Hinged Bracelet,* sterling, forged and fabricated, cupro nickel. **Center left** Paul A. Woelbing, *Pin: Composition #5,* sterling, steel, nickel and auto paint, 8". **Center right** Lynda Greenwade Thorp, *Oil and Vinegar Set,* sterling and epoxy, 3 x 6½". **Above** Diane L. Wolfe, *Pin,* sterling, fabricated.

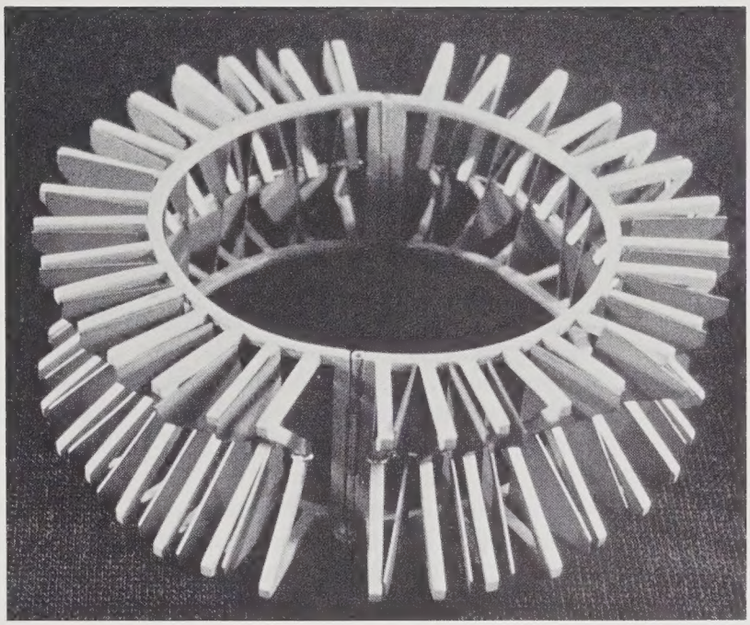
George Brown College
While some metal departments are having to close their doors due to budget cutbacks, the Jewelry Arts program at George Brown College is thriving. The facilities allow for 64 benches in all. Each student upon arrival in September is given a set of keys to his bench, which includes a complete set of hand tools, flex-shaft, torch and individual lighting. Further, students have access to two rolling mills, a polishing machine and lathe. A separate silversmithing room houses, besides a smithing area, a sandblaster, two enameling kilns, plating equipment and a tumbler. The casting room accommodates centrifugal casting and rubber moldmaking.

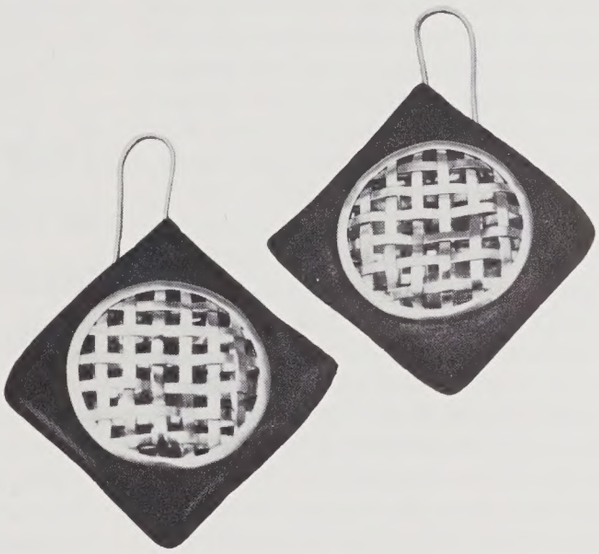
The program itself, coordinated by Christel Klocke, first and foremost trains students in goldsmithing. During the first half of the first year, students work in brass. After Christmas, they work in sterling silver, designing three basic projects with instructor Jerry Bitter. In addition to bench time, students take courses in gemology with Christel Klocke, metallurgy with Charles Lobb, enameling with Alan Perkins, grinding and polishing with Jim Jones and design with Oksana Kit. Before they move on to second year, they are given workshop time in silversmithing, gemsetting and engraving in order to help them understand their options in choosing an area of major development.

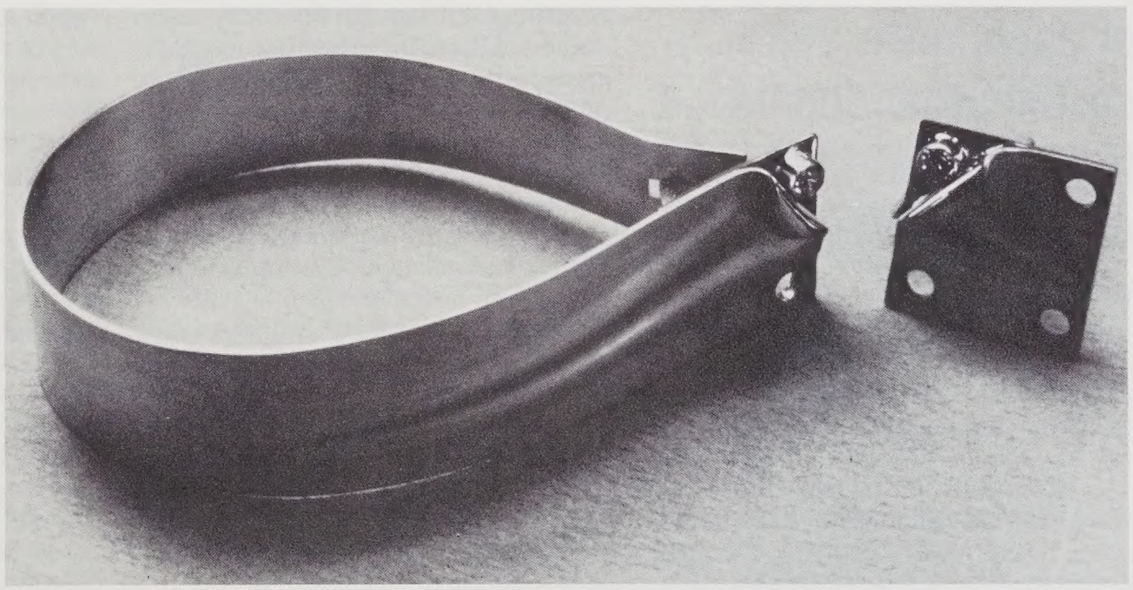
In second year, students work in silver until Christmas and start working in gold in the New Year. Students use metals provided by the school for their projects; they then either return the scrap and jewelry or buy their finished pieces. In second year students are encouraged by instructor Akira Ikegami to experiment in new metals and techniques. In third year, students decide on their major option: Goldsmithing, Repair, Gemsetting, Modelmaking, Engraving or Silversmithing. A Small Busines Management course enables students to understand bookkeeping basics, and in Design graduating students put together a complete portfolio to show prospective employers.

The success of the program can be measured by the employability of the graduates and their artistic achievements in the field. College records show that better than 90% of Jewelry Arts graduates find employment within six months of graduation. The artistic achievements of students and graduates are equally impressive. The latest juried exhibition of the Metal Arts Guild in Toronto received more than 160 entries from which the jury selected 53 for exhibition. Although the competition was open to all artists in Canada, 23 works by George Brown College students were selected; one received first prize and two received honorable mentions.

Jewelry Arts Program
George Brown College
Kensington Campus
P.O. Box 1015, Station B
Toronto, Ontario M5T 2T9, Canada
Telephone: (416) 967-1212
Christel Klocke, Jerry Bitter, Charles Lobb, Alan Perkins, Jim Jones, Oksana Kit, Akira Ikegami







Top Melanie Egan, *Bracelet*, sterling and anodized niobium. **Center** Oksana Kit, *Earrings*, 18K green gold and shakudo (Japanese alloy of gold and copper). **Above** Diane Hanson, *Combination Bracelet and Cufflink*, sterling and copper with zirconia.

Techniques for the Head

by Bruce Metcalf

One of the most dominant features of the craft world is the proliferation of technical demonstrations. We're all familiar with how new techniques, such as photo-etching and mokumegane, have been introduced and popularized through workshop demonstrations. A subtle assumption behind all these workshops is that an artist with more technical range will be able to do better work. We all hope that new technologies will open doors for us, give us rich, new areas to explore, or give us artistic solutions that have eluded us before. And yet, in this emphasis on how-to-do-it, we seem to ignore questions about what we are doing, about the creative nature of our work. We talk a lot about techniques for our hands, but very little about techniques for our heads.

There's little doubt that everybody wants to do good work. If we compare our work with that of others, we want to feel that ours doesn't look insignificant.

We all want the sense of confidence and security that comes from believing we are doing something truly worthwhile.

And you want to feel the little surge of pride that comes when you contemplate your own work and you can say to yourself, "Now, that's good!"

Of course, there is no end of controversy about what actually constitutes "good" work. There's no single definition that meets universal approval. However, let me propose some general assumptions that most of us could agree upon.

The majority of the art that we think is good has a personal style: The work has the indelible stamp of its author. Somehow you can tell exactly who made it. You would never mistake a Picasso painting for a Matisse, or a Frank Stella construction for an Anthony Caro. Even their imitators haven't managed to exactly reproduce the strong personal styles that these artists have invented. When work is anonymous—and I use the word in the sense of being derivative, or copied, and not in the sense of being unsigned by the artist—it has none of these personal qualities. It's not as good, in the sense that we are investigating here.

To illustrate, I'll hypothesize a contemporary woodworker who makes only reproductions of Thomas Chippendale's chairs. Let's assume his craftsmanship is exquisite, and his love for his work shows plainly in everything he does. The joinery, the detailing and even the finish is a precise match to the originals by Chippendale. However, on examination, it becomes clear that the creativity is limited to his effort to reproduce something with as much precision as possible. Many of his decisions are already made for him. The composition of elements, the decorative style, the proportions, even the types of wood, are already decided. Our woodworker chooses his prototype and then copies it. All the creativity, and all the personal vision, was put into his work by Chippendale 200 years ago. Our woodworker is actually trying to be anonymous—the stamp of his personality is supposed to be invisible.

When it comes to matters of artistic quality, being as good as Chippendale is not a matter of copying. It's a matter of making an equal contribution, of having the same intensity of vision, and making some kind of personal statement that's relevant to our own life and times. That's why the anonymity that I speak of is hard to respect within the context of contemporary art, because it represents an opportunity not taken, a responsibility that has been avoided. Too many decisions are already made when you copy something. That's why the personal quality is so important.

When I use the word "personal," I refer to the personality of the artist. Now, it's difficult to determine precisely what a personality is, but there are properties that everybody agrees upon. Each person has a body of experiences, a few special talents and a set of preferences that sets him apart from every other person.

Truly personal artwork—or craftwork—results from and refers to these experiences, gifts and preferences.

At this point, one might contend that some very fine work has been done within the confines of a movement or an artistic style. The individual artist might act as a transmitter of a given style, rather than an innovator or a visionary. The *Book of Kells,* which was a collaborative effort by a number of monks, comes to mind. Or, one might mention the extraordinary 16th-century Persian miniature paintings that are stylistically so uniform that experts can only guess who the artists were. In these cases, the work of the individual artists is indistinguishable from the cultural or collaborative style.

Let's examine a case closer to us in time and context "Scandinavian Modern," whose style of polished, smoothly flowing, undecorated functional form was the dominant influence on American metalsmithing for at least 20 years. However, if you study the history of the style, you find that a few craftsmen and designers were innovators and most of the rest were content to be followers.

People like Georg Jensen, Henning Koppel and Tapio Wirkkala pioneered the style, and the work of each of these designers had a strong personal identity. The dozens of Americans who followed in that movement cannot be considered first-rate artists because their work was so clearly derived from Scandinavian prototypes.

So, a second criteria for good work is that it cannot be too derivative, that it cannot show its sources too clearly.

Followers of movements are often charged with doing deriviative work, and they are usually judged to be the lesser artists. In the fields of jewelry and metals, our most obvious influences come from other metalsmiths. Because we have all chosen the same materials, and processes, because we're all likely to be making the same types of objects and because there are many esthetic concerns held in common, chances are that most of us look at and think about jewelry and metalsmithing all the time. If the work of another artist in the field influences you too much, then your work becomes derivative. When you are faced with a design problem, the first solution that pops into your head is likely to be the conventional one, the one that everybody uses. It's almost a reflexive reaction, and it's easy. An experienced artist will dismiss the easy answers and push on until he arrives at a more unique solution. The constant use of conventional answers eventually makes *cliches.* Like the well-known ring with a turquoise cabochon in a bezel setting, with a twisted wire around it, sitting on a flat shank that has more twisted wire on either side. You've probably seen dozens of them, and maybe have made a few as well. Anybody and everybody can make them, because they rely on cliches.

In the case of jewelry, the people who buy don't want something that looks too unusual. Most people want something familiar in the jewelry they pay good money for—the familiarity is both safe and comfortable. Who wants ornamentation to be disturbing? And the less people think about it, the more they want that familiarity. That's why cliches sell so well and are so often used.

After all this talk about cliches and being derivative, I have to stress that all artists use sources and influences and inspirations, and all art is in some way derived from something else. If a work of art was totally and completely original, it would be totally and completely incomprehensible to everyone but the artist himself. If my discussion here was absolutely free of references to the past, and if it did not rely on any sort of tradition, then I couldn't even write in the English language. I'd have to make up my own language, and obviously nobody would understand me. Complete originality would be so far removed from our normal experience that it would probably be construed as madness. So, every work of art makes some kind of reference to the past and relies on outside sources.

Influences and Sources How do you choose your sources and influences and still remain personal, avoiding derivation and cliche? Your potential sources are everywhere. There are no restrictions—the color of the sky, streaks of light on an old brick wall, a picture of an African costume. You can use nonvisual sources, too, such as music or literature. Some of the most powerful inspirations come as analogies, which are visual comparisons to nonvisual entities. Don't think that your influences are limited to jewelry or art, or even to the visible world.

There are many reasons why artists dismiss potential influences beyond the realm of their own discipline.

The most popular reason for rejecting a useful source is because it's not art—or not jewelry.

But this kind of acceptance of existing categories is deadly to the artistic process. If we can learn anything at all from the history of modern art, we might as well accept that the range of art includes everything. Everything that you can perceive or imagine is available to you, and the only limits are self-imposed.

The next most popular reason for dismissing potential material is that it's trivial. There's a belief that if it's really good, then it must be serious and profound, and never a laughing matter. But, if you hold, as I do, that the entire realm of experience is the proper subject matter of art, then humor, gaiety and all other human emotions become acceptable. Actually, I often find that when an artist calls one of his own ideas "dumb" in a disparaging way, he probably likes that idea a lot. When you dismiss your own ideas because of lack of profundity, you usually bury a small, tentative, but very true expression of yourself. Your self-imposed sense of what is supposed to be acceptable can often squelch your best ideas.

Artists can lose confidence in their most creative ideas because they look too unlike their preconceived notions of real art. This leads to safe, derivative work.

It's comforting to make artwork that fits in, but creative work often looks unfamiliar at first, and it takes courage to risk using a new idea.

Techniques for the Head If you need a rule of thumb to use when selecting your source materials, rely on your likes and dislikes. It's as simple as that. When your interest is aroused, there's an immediate and intuitive reaction which is a sure sign that something is going on in your subconscious mind. This phenomenon cannot be explained with precision. Nonetheless, when you are stimulated, you have an internal force, a motion of the mind and heart that is honest, real and a genuine expression of what and who you are. If you are inspired and excited by something, figure out ways to use that something in your work. When your influence reappears in the finished product, you will see the same qualities that turned you on in the first place. You'll start to see your own personality emerge, and you'll feel the original sense of excitement in your own work.

Actually, you can use any strong emotion as a criterion by which to select your influences. Hate or despair will do. Artists often respond to things they don't like, and sometimes they produce very powerful work. The most famous paintings by Edvard Munch, like *The Cry* or *The Red Vine,* seem to be about anxiety and desperation. The list of well-known art that has been generated or informed by negative emotions is extensive.

Once you have established a collection of influences you would like to work with, think about the qualities of those objects that attracted you. When you respond emotionally, there are always some general attributes that made you feel that way. Try to isolate those attributes and identify them. If your work can embody these same qualities, you are using your sources in an indirect way. Instead of using physical aspects, like the techniques or the details of the original source, you are using an abstract idea. The influence is disguised, and yet you still get the essence.

When you have selected your influences and sources, you'll have to put them to use.

It's important to remember that good artists take their influences and alter them. Some kind of transformation is essential to the artistic process.

Before I give some tips about how to alter your sources, I'll tell you what not to do. First, avoid imitation. As I pointed out in the story about the woodworker who copies Chippendale chairs, you can make a skillful copy of anything, but you get nothing but a copy in the end. The second practice to avoid is using those influences most common to other jewelers—namely jewelry. Conventions and cliches derived from overuse of the same influences will only limit your ability to be original. Choose visual stimuli which are far removed from your own discipline. Earth-moving equipment, for example, is an uncommon source for jewelry. At first glance its scale, design and function seem incongruous to the design sensibilities of jewelry. However, this dissociative image might free your imagination for an original approach to your work.

Once you have chosen your influences, there are methods of transforming them in your work. Remember that transformation is an essential ingredient in the artistic process.

Abstraction A textbook example of abstraction is a series of drawings by the Dutch painter Theo van Doesburg that led to a painting. The first drawing is simply a study of a cow grazing in a field. In the second, the cow is converted to rectangular forms. The last drawing is a rearrangement of those rectangles into a dynamic, but balanced, composition. The result is totally nonrepresentational, an abstraction of the first drawing. By breaking the cow into rectangular masses, and then rearranging the forms, van Doesburg transformed the cow into pure composition. It's a simple and effective process.

You don't have to rely on form alone; you could consider color, texture, light and shadow or symbolic value, among other things. This process of isolating an intrinsic value and transforming it into tangible content leads to originality of perspective.

Juxtaposition This is one of the basic components of the creative process: the talent for putting together dissociative symbols to form a new meaning. The world is commonly viewed as a huge stack of precisely labeled boxes, with experiences sorted into one box or another like mail in a post office. Grass is green; nails are hard. So there's always something surprising about images taken out of context and interrelated. Claes Oldenburg is a master at this kind of identity dislocation, with his huge pants and soft toilets. Funk ceramics obtained much of its magical humor from a similar kind of juxtaposition of images, like Robert Arneson's toaster with fingers poking out of the slots. The combination of images that normally appear unconnected creates powerful transformations.

Disintegration This is a process of breaking your source into parts, rearranging or emphasizing bits and pieces instead of the whole. To return to our jeweler who's looking at bulldozers: he could make a scale model that functions as a pin or neckpiece and get a tiny wearable bulldozer, or he could take parts of the machine—the treads, the hydraulic cylinders or the blades—and reassemble them in an original construction. Elements can be repeated to make patterns or contrasted against an organic image. Details, like the hydraulic lines or the bright metal parts, can be used as abstract forms to create complexity and diversity. The symbolic aspects of the machine can be suggested by amassing various dislocated parts. You can reinterpret the original machine on a visual or symbolic level, but the farther you distance the work from the source, the closer it approaches your personal statement.

You can open up still more possibilities by combining several sources. The more unexpected combinations you make at one time, the more original the work will appear. As you increase complexity, you increase the richness of associations that people can perceive in your artwork.

In the end, it's important to make this process of transformation—selecting, altering and mixing your sources—a conscious method. Intuition has to play a part, especially when you look for new material. On the other hand, you must ask yourself now and then, "Is this thing a cliche? Should I use it? What is its context in relation to my discipline? How can I break it down and then reassemble it?" By questioning yourself, you can avoid cliches and worn-out conventions.

On occasion you can cripple good ideas by forcing them into predetermined molds.

Too often, craftsmen know what they're going to design before they even start thinking about it. The mental conversation starts with, "Well, I'm going to design a pot today," or "I think I want to make a silver neckpiece." Because severe restrictions of function or scale or material are imposed on a design before it's even born, good possibilities are rejected as inappropriate without really examining the merit of the ideas. When you try to force your imagination into ready-made categories, you often get tight and overcautious. You make it very difficult for your intuition and natural flights of fancy to emerge.

So, sometimes it's best if you just go with the flow, let go of the media and formats you're accustomed to, and let your new ideas do the directing.

The creative imagination needs lots of room. Sometimes it's best to discard any notions of function or marterial or format. You can then concentrate on the broad, abstract qualities that you want your work to embody. Save your pragmatism until you're well under way. When a good idea has taken shape, you can compromise and fit it to a certain scale or function or material. If you have a particular format that you absolutely must work in, you sometimes find ingenious solutions in getting the idea to fit. Frequently, you'll find that your ideas will dictate whether the work needs to be sculptural or functional, what size it must be, and what it should be made of.

It takes courage to make changes, to abandon everything you're used to and head into unfamiliar territory. You have a choice between playing it safe and taking some risks. You might do some awful work. Good artists aren't afraid of this, though, because they know that growth and change are bought only at a price. Instead of despairing about failure and bemoaning all that wasted time, they study the failures to find out what went wrong, and gradually the problems are eliminated. Once the new territory becomes more familiar, the good work starts to get done. The most important thing is to trust yourself, and believe that with patience and persistence and self-criticism you can achieve your goals. Learn to listen to your inner voice. It's not always easy to listen to your own intuition and follow your own influences. But if you do, you discover the clues that can direct you toward a more personal and more truly self-expressive type of art. ■

A Metalsmith's Guide to **Athens**

by Anne Barros

To be a visiting metalsmith in Athens is both a delight and a challenge. The delight comes from viewing at close range the skill and liveliness of the metalwork of the ancient Greeks and the rich folk tradition of jewelry and metal since Byzantine times. The challenge comes when you try to buy gold wire or maneuver your modern chariot amongst the mobile assemblages of steel that clog the Greek capitol.

One's pride as a metalsmith is constantly buoyed in Athens. Metal is important here. Open any guide book, and you are accosted with the bronze age, the iron age, the golden age of Athens. Athena sprang full panoplied (shield, spear, helmet and feather) from Zeus's head. Most of the masters of ancient sculpture worked not in marble, but in bronze. Tombs were decorated with bronze rosettes and kings buried with gold masks. True, gold was worn only by the very wealthy or used to honor the gods in temple treasuries, as a deciphered linear B tablet describes: *For Poseidon:* one gold cup, two women; *For Zeus:* one gold bowl, one man; *For Hera:* one gold bowl, one woman; *For Hermes:* one gold cup, one man. Homer's *Iliad,* moreover, relates how the goldsmith was summoned to overlay the horns of a sacrificial heifer with gold and details Hephaestus's forging, chasing and inlaying the shield of Archilles with gold, silver and tin. However, in democratic Athens of the fifth century BC, a finger ring or a fibula, a pair of earrings or a bracelet, were probably the most jewelry worn with the simple white chiton.

Votive offering, punched bronze

Brooch, of aluminum, silver, brass and copper

Gold disk with bust of Athena, 2nd century BC, *Benaki Museum*

Gold disk earrings with filigree, granulation, 3-4th century BC, *Benaki Museum*

The 20th-century Athenian woman, according to surveys, prefers small gold pieces of jewelry that she can wear continuously, and her male counterpart still wears very little jewelry other than a ring or cross. Still, as attested by the large number of jewelry stores in Athens, Greece is ahead of many European countries in gold jewelry sales. A recent study of the Greek market by the International Gold Corporation shows that a high percentage of Greeks buy gold for traditional gift-giving purposes—weddings, baptisms and name days. Of course, the tourist purchases a large portion of Greece's jewelry production and exports are good. With the "average" benchworker in Greece making about $30.00 a day, labor costs are lower than those in many other countries, so Greek gold jewelry has a good chance on the world market and can be a good buy in Athens. There is also a fair amount of silver holloware, both sterling and plate, on sale for the Greek gift-giving market. Wrought iron work is also being revitalized as blacksmiths reproduce neoclassic balcony railings for modern apartments.

Metalworking, like much of modern Greek life, bears both the glory and the burden of its classical heritage: A 20th-century jeweler might find it difficult to better the refinement in granulation and filigree work of the ancient smiths. The alternative in a time-is-money society is often cast replicas of museum pieces for the tourist trade or unimaginative, conservative jewelry for the average Greek, although there are some metalsmiths who try to adapt traditional Greek themes into wearable modern pieces. Thus for the visitor, after a quick look into the glitzy windows near Omonia Square on a soft Greek evening, it is perhaps best to view the work of the ancients in the museums. There you will find pieces to inspire.

Ann Barros is a Toronto silversmith who was on leave in Athens last year.

National Archaeological Museum

If one approaches the Acropolis with an uplifted spirit, a similar feeling is evoked as one climbs the marble steps of the National Archaeological Museum. For here, catalogued and labeled, are the remnants of the everyday life of the ancient Greeks—the statues and steles from the roadsides and public buildings, the burial offerings from the tombs of kings and commoners, their seal rings, drinking cups, hairpins and daggers. Depending on mood and time, you can either rush straight forward into the Bronze Age in the Mycenaean Hall or turn to your left and slowly work your way through the geometric, archaic and classic periods, and approach the Mycenaean finds from the back door. Either way, the cases laden with gold, silver, bronze, ivory and beads from Mycenae are one of the museum's high points. One recalls the world's excitement as Heinrich Schliemann uncovered the royal graves and thought he had "gazed on the face of Agamemnon." A freshness in the Mycenaean goldwork bespeaks the imaginative quality of these pre-Homeric people. Even with much stylization things do not seem staid.

The metalsmith will also be struck by the museum's collection of bronzes, especially the statue of Poseidon throwing a trident, the small jockey boy on his horse, and in room 37, the helmeted Athena and the Piraeus Kouros, the oldest known hollow-cast bronze statue of its size. It is sobering to realize that while the greatest Greek sculptors of the classical period worked in bronze, there are only two large mid-fifth century BC pieces extant in Greece—the Poseidon here and the charioteer at Delphi. This dearth is similarly true for jewelry from the archaic period, perhaps because of the looting and burning during the Persian wars. Again we face the truism that the quality of metal which makes it so appealing as a material—its meltability—is often the reason for the loss of fine examples of metal art. And bronze was especially desirable to melt down and reuse.

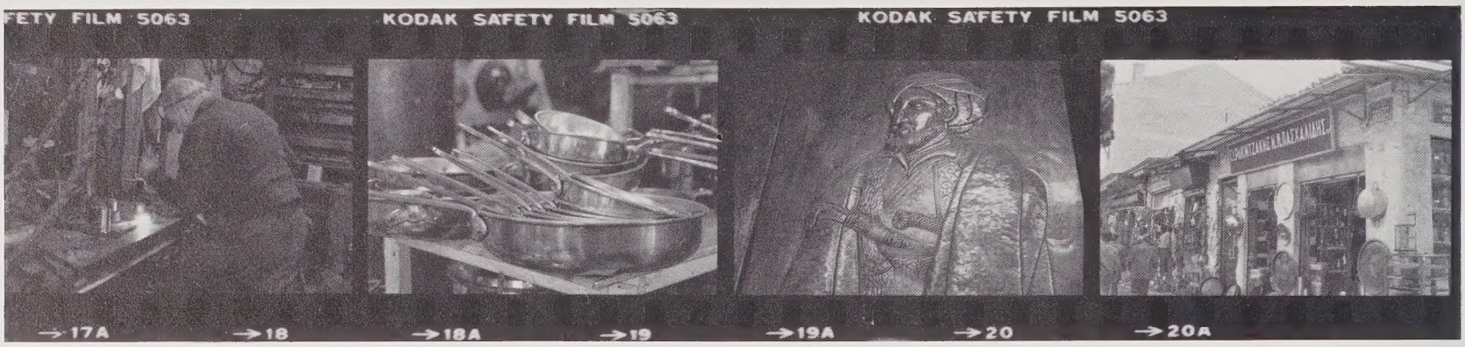
Finally, the museum houses the Helene Stathatos Collection, another jeweler's feast from the Bronze Age to Byzantine times. One only wishes the lighting were better directed upon such pieces as the unusual small gold temple facade, with a drunk and unsteady Dionysos. Perhaps the guard peacefully fingering his worry beads will not object if you switch on your keychain flashlight.

Benaki Museum

Housed in its donor's townhouse, the Benaki Museum offers an impressive survey of over 4,000 years of Greek metalwork from gold to iron in a variety of techniques from stamping to granulation, filigree and enameling.

In Room I are the Protohelladic Eubeian raised gold cups with chased geometric decoration, marvelous early earrings, fibulas and small pieces; and if you look on top of the cases you will find some great forms in bronze helmets. Be prepared to be completely dazzled by the richness found in the wall cases in Room II. There are gold crowns of oak, laurel and ivy leaves, incredibly delicate and attached to hollow bands once reinforced with pitch or wax. The crowns were worn as prizes in processions or dedicated in tombs or sanctuaries. The magnificence of the granulation and wirework on almost every piece from earrings to belts is awesome. I found that my pocket magnifying glass increased my appreciation and suggest you bring one along. As usual in Greek art, a few basic motifs appear in constantly varied guises—animal and snake heads on torques and bracelets, Herakles knots, rosettes and palmettes. The relief bust of Athena in case 11 with the other glories of the Thessalian treasure is a good example of the sculptural abilities of the gold worker. Up until the late Hellenistic period colored stones were not of great importance, and elaborate effects were achieved by minutely working the gold itself. Once colored stones came into prominence, the quality of the metalwork waned.

In Room IV, mostly dedicated to ecclesiastical pieces, there is a particularly unusual three-finger ring set with stones. If you can pull yourself away from the strong colors of the ceramics in Room V, you will find antique jewelers molds of stone and wood for casting in case 51.



Copper relief of Greek revolutionary war figure, Ifestou street

Downstairs, the Folk collection exhibits more recent Greek tradition. Here the metal is dull silver (50 to 60 percent pure silver content), often with beads of amber or coral against the rich embroideries of the costumes. Everything asks to be moved and heard—pectorals with descending rows of pendants, hanging attachments worn on the back that jingle to ward off evil, necklaces with silver coins, heavy pendant earrings with rows of chains that fortunately hang from hair or headdress rather than earlobes. Angelos Delivorrias has written a fine book on this called *Greek Traditional Jewelry,* available in the museum shop.

Finally, in the carved wooden reception room from Kozani, there are exquisite enameled gold pieces of the 17th and 18th centuries from the Dodecanese and Cyclades.

Museum of Greek Folk Art

For more beautifully displayed examples of traditional jewelry and armament, visit the second and third floors of the Museum of Greek Folk Art at Kidathineon 17 in *Plaka.* Here, in the picturesque part of Athens at the base of the Acropolis, you can observe, under good lighting, filigree work and the savati technique, a type of enameling.

Other museums, the Agora, the Byzantine and the Kanellopoulos, also display metalwork, but the visitor might enjoy the change of pace and atmosphere offered by the new City of Athens Museum housed in a superbly renovated townhouse on *Klafthmonos Square.*

Voukourestiou Street and Kolonaki

For fashionable shopping in Athens, the pedestrian walkway along *Voukourestiou Street* and the area edging up *Lykavittos Hill* called *Kolonaki* offer examples of some of the finest jewelry stores. Here many shops—including Lalaounis, Zolotas (on Panepistimiou), Alder and Karalis—serve an international clientele. When a Greek shipowner needs a bauble he often comes here.

On the corner of *Panepistimiou* and *Voukourestiou,* Ilias Lalaounis continues both the jewelry tradition of his family and the goldsmithing traditions of his country. Known as the "father of archaeological jewelry," Lalaounis began adapting museum pieces for the modern woman 25 years ago and now is Greece's largest retail jeweler. His workshop at the foot of the Acropolis employs over 200 craftsmen. At the creative center of a firm that first showed Minoan-inspired body jewelry in Paris in 1970 and now has two completely new jewelry shows a year, Lalaounis is a dynamic Greek whose personal philosophy is that jewelry gives its owner more pleasure than any other art form. To show his range, in 1981, he created a cross for Pope John Paul II based on an 18th-century wooden machine from a salt mine in Poland. The cross effectively combines the symbol of Christianity and the labor of the Polish people. At present he is working on jewelry inspired by modern science and technology in the belief that our art should appreciate and reflect our times.

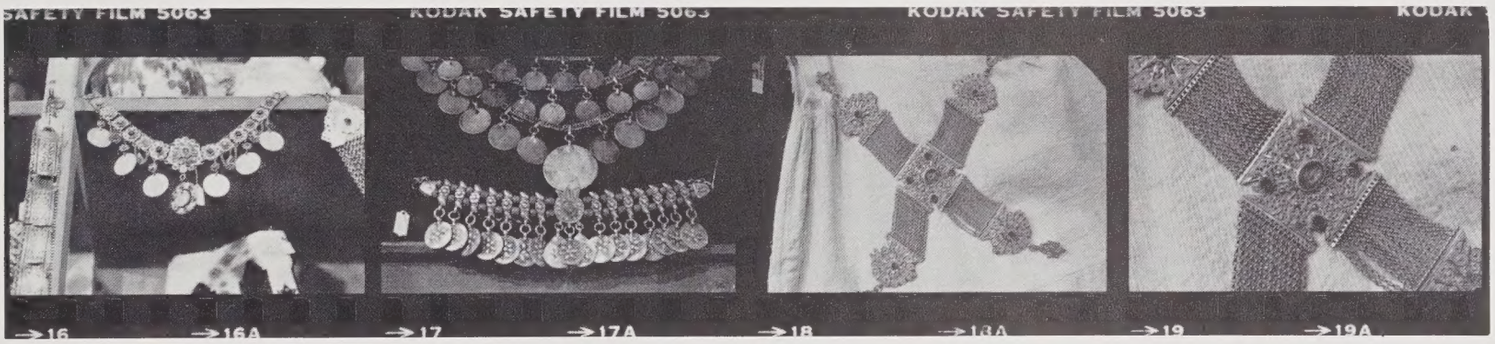
La Chrysothéque Zolotas alone produces the authentic reproductions of museum pieces acknowledged by the Greek government. For example, it has necklaces composed of bead seals of tapyrus flowers and lilies cast from stone molds of the 14th century BC found at Mycenae. Other reproductions are from molds made directly over original classical pieces. The rich color of 22K gold is

evident everywhere, but many reproductions are also made in gold-plated sterling silver, copper and bronze. Inspired by the Greek tradition, American designer Ronald McNamer (formerly with Tiffany and Company) has created many wearable pieces for La Chrysothèque which though undeniably modern suggest a rich past. The Zolotas firm also collaborates with well-known Greek artists such as Takis, Tsarouchis and Fasianos in the design of limited editions.

At Number 20 Voukourestiou, Mati displays interesting work, both antique and modern, around the theme of the mati, the eye that protects you from evil. Note that often the eye is set in a silver cross reflecting the contemporary Greek's assimilation of both superstition and Christianity.

The Athens Design Center (adc) at 4 Valaoritou Street and the Poliplano Art Galleries at 16 Lykavitou exhibit contemporary metalwork. Both show the work of well-known Greek artists, who though mainly painters, also work in metal and other media. Helene Vernadakis does floral repoussé brooches in nickel silver and large, freestanding brass butterflies in strong, abstracted shapes. Yannis Gaitis translates the symbolic profile heads of his paintings into brass silhouettes with mirror faces. There are also silver medals by Ghikas and Fasianos in limited editions.

An intriguing bit of metalwork that surfaces in Athens is the votive offering. These are usually stamped forms of legs, arms or even completely dressed men, women and children that are left hanging in churches and shrines as petitions for say, a leg that will not heal or an ill member of the family. At the Poliplano Gallery there are large stamped votives in marvelous shapes, and in *Monasteraki* and religious stores you can buy the usual plaque size in base metal for about a dollar. Perhaps your protector could be reminded to guard your hands when you confront the polishing motor.



Antique folk jewelry for sale at *Adam's*, Pondrossou street

Atelier K (Dimokritou 25a), named for Takis Kavalieratos and Stella Konstantoyanni, the two artists who own the gallery, is unique in that it features only metal. Both artists studied at the Athens School of Fine Arts and have exhibited worldwide since 1972. Their work, inspired by nature, is beautifully fluid in form: Floral neckpieces and brooches combine silver, nickel silver, aluminum, brass and copper often with beach pebbles. Here are two very dedicated metal artists offering the Greek public something quite different and personal.

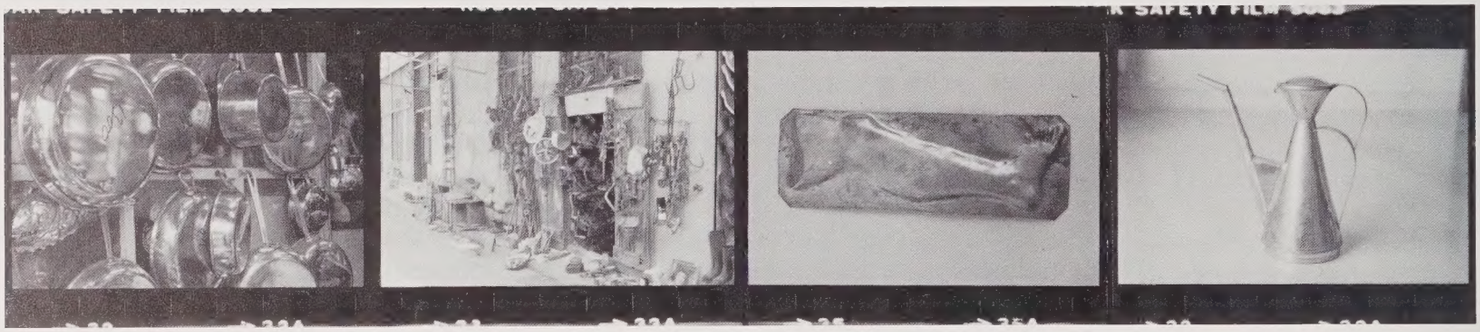
I may stand corrected soon, but at present Athens has no galleries like Electrum in London or the Gallery of Contemporary Metalsmithing in Rochester which exhibit the work of a number of metal artists using innovative designs and techniques. There are, however, multimedia galleries like Skoufa in Kolonaki and Anemos in suburban Kifissia where one can see a variety of high-quality work.

Kolokotroni

The *Kolokotroni* area is the center of the gold and silver trade in Athens. There, at 7-9 Theseos Street, the Association of Silver and Goldsmiths of Attica *(Biotexnikos Sulloyos Apyupoxpusoxown Attikis)* has a showroom and information office where Mr. Brice, who speaks some English, will want to give you both Turkish coffee and advice. The Association represents over 250 businesses working in precious metals in the Athens area.

The Association supports the industry in Athens by donating a sum of money which is given to the most promising students each year and by helping as a job clearing house for workers and shops. Like most attempts at organization in Greece, it does the best it can in a fiercely individualistic society. It would like to see a change in the present system of marketing gold through importers, elimination of the "black" market in gold and the 22 percent luxury tax paid by the *maker* of objects in precious metal before they are sold to the retailer. Greek law does control the stamping of quality and maker's marks by a system in which the jeweler is given a code number to stamp onto the article next to the quality mark. Unfortunately, it is not difficult to change the last digit of a number if there is an inaccurate precious metal content.

Since most jewelry suppliers in Athens import their goods at steep duties you probably will not find any bargains or anything very different in the line of tools. There are, however, some fine looking shapes in brass scratch brushes that might be tempting.



Copper and brass for sale on Ifestou street

Votive offering, for hanging in a church or shrine as prayers for a wounded leg, Monasteraki

Pinch-waisted oil container

There is no free market in gold in Greece. One cannot buy gold legally unless one is a registered manufacturer. If you plan to stay in Greece for a considerable period of time, you could bring your own gold with you, declare it upon entry, make pieces while here and then request an export license to take them with you when you leave. Since the bureaucracy is so cumbersome, I cannot recommend such a procedure but suggest you limit your work to silver or nonprecious metals.

Kolokotroni, with its narrow winding streets and jewelers' benches tucked into arcades, offers a glimpse of the trade as it has been plied in Greece for centuries, especially in the northern part of the country. Most of Greece's jewelers have descended from goldsmithing families. A good example is Stergios Stergiadis who heads a manufacturing firm with close family ties. Mr. Stergiadis began specializing 25 years ago in wire work and filigree bracelets after graduating from Anatolia College. Today, from a bustling office on Syndagma Square, he exports worldwide designs drawn from classical jewelry. His workers handweave the chains and repoussé copies from the recent gold finds of the tomp of Philip of Macedon. Much of his production jewelry is in 22K gold, not only eminently suitable to fine working because of its softness but also in demand by many Greeks.

The Greek government, through the Hellenic Organization of Small and Medium Size Industries and Handicrafts, helps the Greek metalsmith with promotion and exhibitions at trade fairs. Its Design Center offers creative talent in adapting, for example, an interlacement pattern from a seventh century BC Corinthian urn for use as a modern pendant. Thus classic Greek designs become modern decorative elements while maintaining an appropriate link with the past. The organization has a showroom at *9 Mitropoleos Street.*

For the craftsman, the showroom of the Hellenic Section of the World Crafts Council at 135 Vasilissis Sofias displays a small amount of metal and jewelry. Likewise, the Pronoias (Voukourestiou 24A) is a government-supported organization with high-quality needlework and some metal.

tool supplies
Avyeris-Meimaridis
17-18 Theseos Street

stones, findings
Siamis
1 Praxiteles Street (first floor)

findings, pearls
G. Stamatakis
12 Theseos Street

polishing
Kiki Anagnostopoulou
1 Praxiteles Street (entrance)

nickel, silver, brass, copper
E. Kolombos
9 Leoharous Street

silver
Adelphi Seferiadi
5 Havriou Street
(hours not standard)

silver and gold plating
S. Kotenos
14 Lekka Street

The best metal craftsmen in Greece have usually learned their skills as apprentices here (in Greece) or they have gone abroad, often to Italy for training. Although there is a school of goldworking in Athens, it is part of a technical high school program and not open to visiting foreigners. The Athens School of Fine Arts ignores metal as a medium except in sculpture. Since there are no metalworking books yet available in Greek, and only a few classes offered, it is amazing to see that there are so many craftsmen struggling to gain acceptance for their new ideas about jewelry. One of particular note is George Polizos from Serres in northern Greece, who fabricates beautiful pieces in horn and bone with metal.

Pondrossou Street
One of the most exciting realizations for the visitor with a penchant for metal is that one can actually purchase ancient or antique pieces of the same periods that one has been straining to view in the museum cases. Add to your private or school collection artifacts like ancient bronze rings or bracelets, 19th-century folk jewelry, or what everyone needs, a chased gunpowder case. Although care must be urged in purchasing, there are reputable dealers in antiquities, and among them are: **Adam's:** 47 Pondrossou Street; **Martinos:** 50 Pondrossou Street; **Zarakovitis:** 49 Pondrossou Street; **Patrikiadis:** 64 Pondrossou Street.

Where *Pondrossou Street* meets *Mitropoleos Square* there is The Bead Shop at 6 Paleo Benizelou Street. For the apprehensive, Greek worry beads and "evil eyes"—deep blue beads with black and yellow eyes painted on them to protect you from someone's intended or inadvertent hex—can be purchased here in quantities.

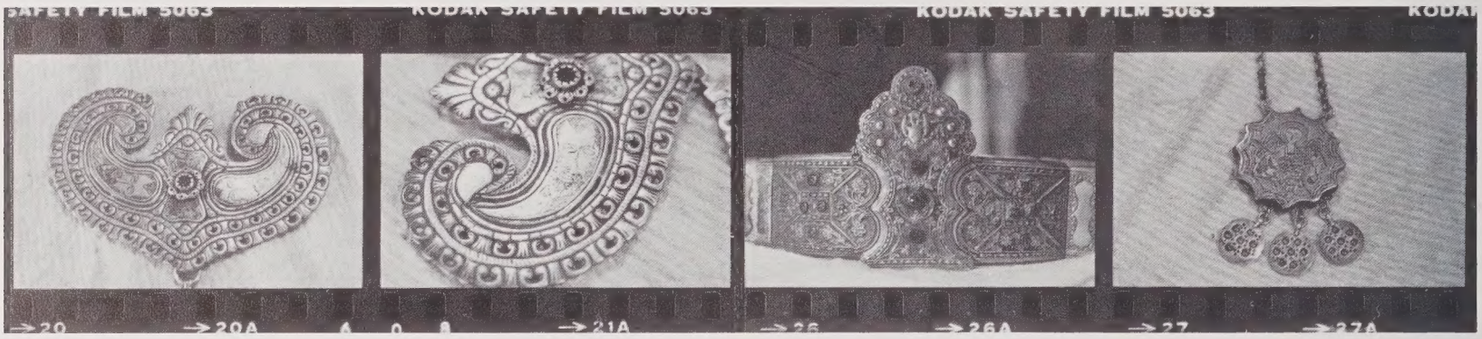
Monasteraki
Betraying my bourgeois origins, I have saved my favorite section of Athens until last. It is the area around the *Monasteraki* electric train station, near the ancient agora and is the heart of the base metal trade, the flea market and generally unpretentious buying. On *Ifestou Street* many smiths dedicated to Hephaestus, the god of the forge once worked their metal over open fires in the street. The few remaining have moved inside. Do not hestitate to enter and watch them hammering on large copper reliefs, their production line of household pots, pans and bells, or the edged coffee trays one sees swinging from waiters' hands all over town. G.J. Rakintzakis and N.M. Paschalidis, partners at No. 9, cater to the Greek demand for copper and brass articles for ecclesiastical, (see their baptismal fonts), domestic and industrial uses.

Continuing down *Ifestou Street* you will be invited to enter any number of stores gleaming with brass and copper, both new and old. Athens is the entrance to the East, and for the uninitiated, in this bazaar you never accept the first price quoted. Half the fun is the game of buying the object. Never point out what you really want first and ask its price. Select some other article and then casually ask about the one you really desire. The smart owner knows you probably are willing to pay more for the copper poaching pan you covet, so do not reveal how much you like it until you have received at least his first price. Even then, try to maintain a disinterested composure. Another element in the game is that it is more fun for the merchant to sell you something you do not want than something you do, so beware.

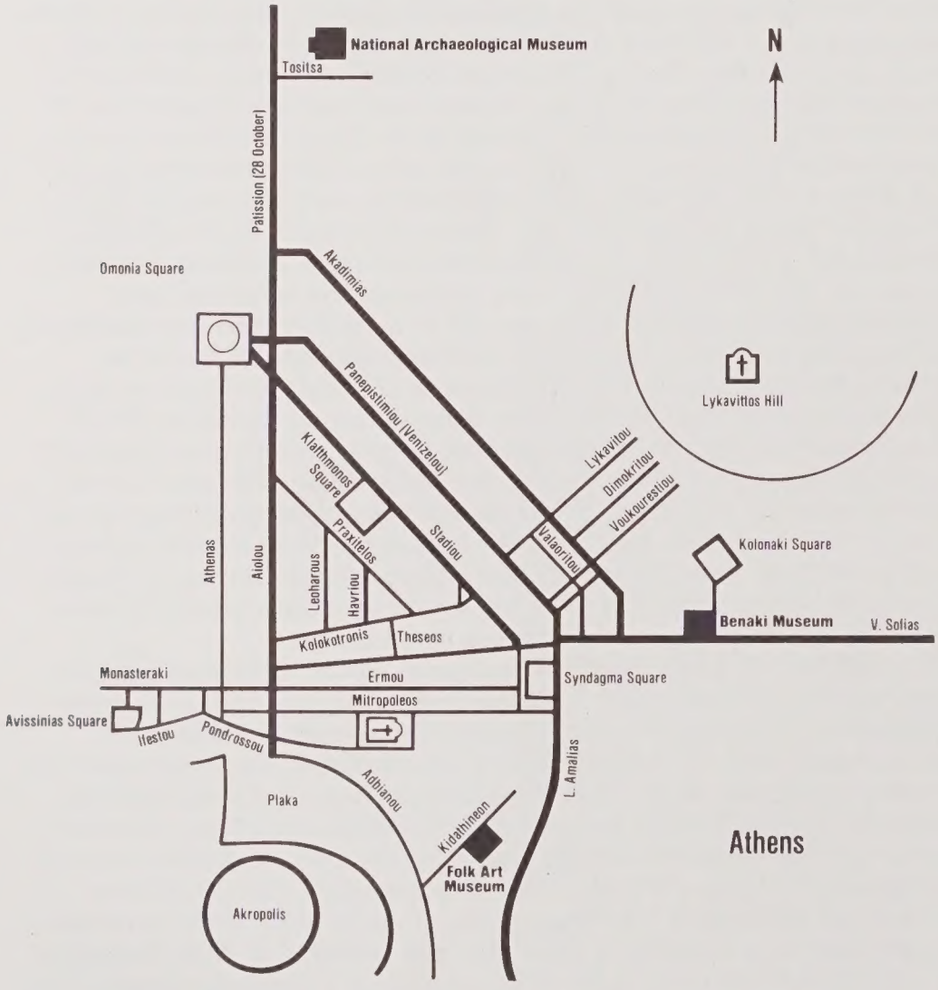
The real buys in scrap treasures are had at *Plateia Avissinias.* Here, on weekday mornings, trucks enter with their finds and even before the driver has braked, the professional buyers cluster around to get first choice. It evokes the harpy scene in Katzanzakis's *Zorba the Greek.* Tin-lined vessels for everything from goat's milk to fish were common items in Greece until the invention of plastics. Thus it is a good place to indulge your fancy in brass, copper or tin. The tinsmiths are still producing the marvelous pinch-waisted oil containers in a variety of sizes. They pour beautifully for the table or studio and can be found at 1 Athenas Street. If you actually want some new brass or copper, it is available in sheet, rod, and tubing at **S. & E. Xabelas:** 104 Ermou Street. For scrap metal of all kinds go to *1 Avissinias Square.* The only titanium I have been able to locate is being used to replace the rusting iron braces between marble blocks on the Acropolis.

Finally, though eating gold and silver is considered a delicacy in some countries, it is not in Greece. May I suggest for a really inexpensive lunch in humble surroundings after you have depleted your drachmas, try souvlaki with pita, tsanziki and a beer at O Thanasis, 6 Mitropoleos Street.

Something else Athens offers the metalsmith, though neither hammered nor gilded, is a feel for a former time, be it Mycenaean or Athenian, of the 5th century BC. Spending time with the lines, curves and values of the civilization that gave birth to western culture somehow helps to reconfirm our tradition as metalsmiths and redirect our activities in the studio or shop. Perhaps it is the philosophy of the ancient Greeks that sets us to thinking like Platonists of form and matter and helps us to rediscover what they had already learned. And although it is not easy to find the past glory of Athens, most visitors find the effort leads them to appreciate both those who discoursed in the ancient agora and those who talk today over coffee in Syndagma Square.



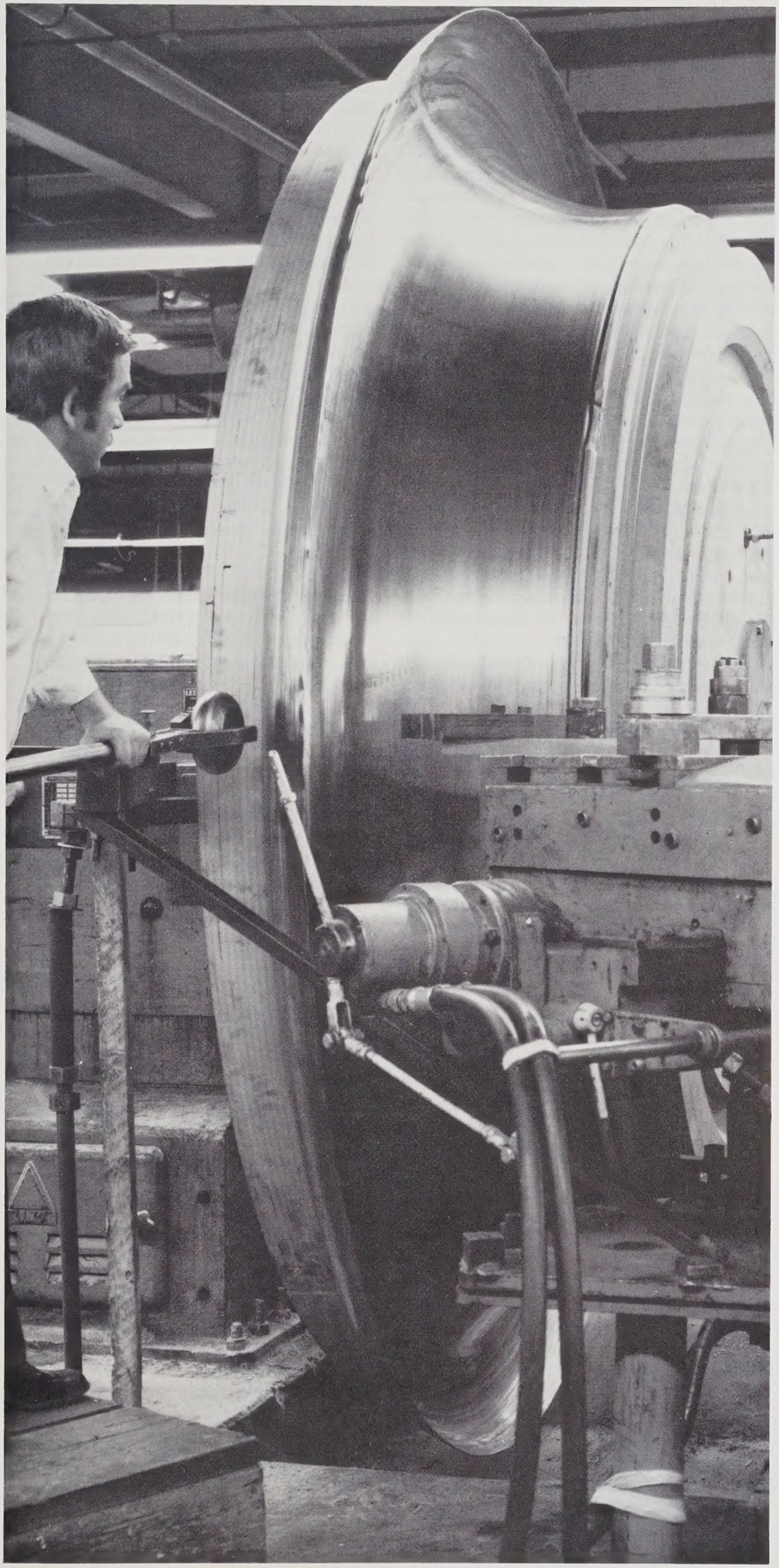
More folk jewelry, *Adam's,* Pondrossou street



The hours for shops and museums vary with the time of year. It is best to consult an English language newspaper when in Athens to be sure of openings. Most museums are free on Sunday.

Final Comments

As in any traveling experience, often the things you most anticipate are a disappointment. You may lament the shape of the gold cup of Nestor in the National Museum; or the fact that the ancient Greeks did not seem to labor over new designs, but used many of the same motifs for centuries; or that much of the jewelry made today in Athens is imitative. Then, quite by accident, something unexpected captivates you. Maybe you happen upon the man in Monasteraki selling drinks from an enormous Bedouin-style brass pot, or perhaps a peasant lady, replete in embroidered finery with her dowry coins around her neck, passes you on a narrow street in Plaka, or your eye is caught by the simple integrity of an earring in a museum collection and you spend time sketching it. Then you climb Lykavittos to watch the sun set over the Saronic Gulf, a sight that earned Athens its epithet, "violet crowned." From such comes the first rule of travel—take from each place what it has to offer and enjoy it there. Do not look for copies of the Vaphio cup and fresh octapus in Chicago, or conversely, for 1mm gold wire and contemporary titanium jewelry in Athens. ■



Metal Spinning

by James Seavey

This article is the first of a three-part series

Forms of rotation are archetypal—they come from and speak to our deeper selves, our collective unconscious. All forms of symmetry have deep biological roots and emotional resonances. Spherical symmetry is intimately linked with the image of self.[1]

Just as it is appropriate to encourage the exploration of nonrotational forms as a means of expanding the expressive possibilities of handraising, so it is equally appropriate to explore the possibilities of rotational forms, their use and meaning in our daily living and cyclical rituals. Metal spinning is an incredibly fast, flexible and sensitive means of producing an infinite variety of forms.

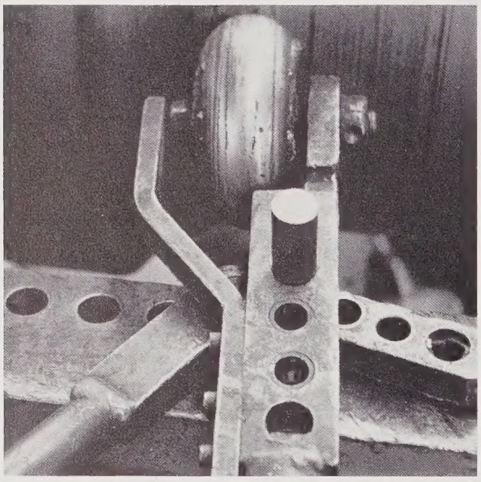
Part I of this series will introduce metal spinning through a brief history of the process and contemporary applications. It will also discuss spinning tools and their uses. Part II will present a thorough guide to procedures through step-by-step diagrams on various strokes, proper centering technique and other specific recommendations. Part III will deal with tooling particular to metal spinning. A wide range of materials, configurations and techniques will be covered, with emphasis on techniques for making and using chucks.

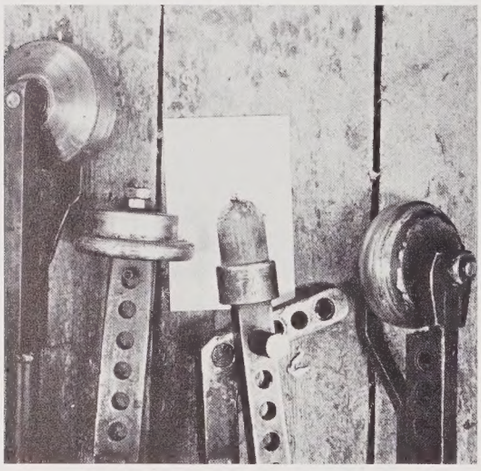
Development of Metal Spinning

As with all industrial processes, metal spinning originated as a craft—some sources say in China, others in pre-Christian Greece, Rome or Egypt. Traditionally, cast forms of rotation have been finished by turning and burnishing. Spin burnishing to spin forming is but a short step, and I suppose this to be the origin of spinning. The suitability of spinning as a means of production is linked directly to the availability of rolled sheet metal. From the dawn of the industrial revolution until the late 1960s, the use of metal spinning increased steadily. The introduction of hydroforming (a process using

Spinning a 10′ diameter part at Bomco, Inc., in Gloucester, MA. A single part was made and the tool destroyed. Photo: Bell & Wilson, Inc.

James Seavey is a graduate of Rhode Island School of Design where he studied Metalsmithing with John Prip. He has worked as a designer-craftsman for Gorham Silver Co. and Old Newbury Crafters and as a plant manager for Faithcraft International. Currently he makes and markets pewter holloware under the name Halibut Point Pewter in Gloucester, MA.





Top a 6″ diameter wheel tool mounted on a compound-action handle, on tool rest. **Above** Wheel Tools: The third from left (with compound mount) is compressed of fiber set in steel. Tools from Bomco, Inc.

a male die on a plunger and a rubber diaphragm backed with oil at varying pressures), automatic spinning lathes and the general preference of industry for expensive tooling over skilled labor, have reversed that trend dramatically. Spinning remains viable with small industries and job shops because it is the most economical process for short runs, difficult forms and materials and very large pieces.

The most compelling reason to spin is speed. It is possible to produce from dozens to hundreds of parts or completed objects in a day's time (selling that kind of production is another story, another skill, which I'll not attempt to cover). Commissioned to produce a single sterling chalice, let's say, one could make the necessary tools, trial spin in brass or copper and finish the sterling piece within a day's time. Or, if some of one's other hard-won skills were required, the time leading up to the raising (to modify the rotational form), the chasing, stone setting, fabrication, engraving, sandblasting, etching or whatever, would be reduced significantly. Then, if a customer should want a duplicate, or should some failure occur in a subsequent process, the chuck would be available to make a replacement in a matter of minutes. A growing collection of chucks can be adapted and combined to expand the spinner's available vocabulary of forms at an exponential rate. Thus the making of chucks is not the bottleneck it might seem.

In industry, spinning is classified as "flexible tooling process" (as are masonite dies, hydroforming, magniforming, photoetching and so on). This means that the cost of tooling is so low that very short production runs are possible. Bomco, Inc., a Massachusetts firm specializing in "metal forming excellence," recently produced a bellmouth assembly, 10′ in diameter, for the testing of jet engines. The customer, Pratt and Whitney, requested delivery in six weeks. Two weeks were required for obtaining the materials, another two for making the tools and one week to fabricate the part. Only one day was required for the actual spinning. The chuck was later destroyed to make room in the busy shop.[2] Imaginative use of tooling can make spinning perform spectacularly.

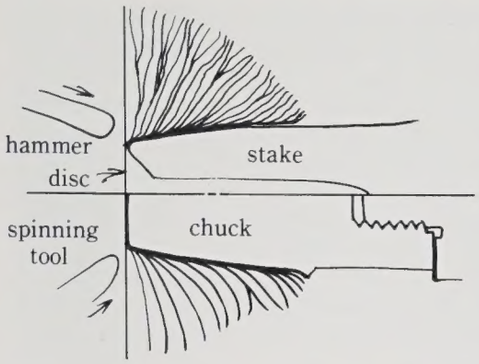
Invented as a craft, developed as an industrial tool, spinning is now out of favor in both fields. If its expressive potential is to be explored, the art of metal spinning must be acquired by individual artisans. The vocabularly must be assumed, expanded, refined and a language developed.

As craftsmen, we feel limited if a machine process is dominant in the production of a piece. Handwork provides control while allowing spontaneity and seems to connect the spirit of the artist directly to the work. I'll call this, with respect, the handcraft mystique. Spinning fits squarely within the boundaries of this mystique. With lost-wax casting, photoetching, electroforming, the use of machine tools and so on, what counts is not the process itself, but the preparation for the process and the attitude towards the execution by the artisan. Spinning, however, requires hands-on involvement throughout. The spinning tool is held in the hand and under the arm; the chuck (spinning die) serves to guide (and support) form as it emerges, much as the mental image a potter holds guides the hand in throwing. If no form is anticipated as the hand moves, the clay is out of control. In spinning the chuck serves as a goal, but the control of the spinning tool by the hand is instant to instant. The speed, length, force, direction and pitch of each stroke are as important to the spinner as brushwork is to the painter. One can spin as smoothly and subtly as Vermeer, as boldly as Cézanne, or as harshly as Kline. We may some day see an esthetic which grants spinning strokes the expressiveness of the brush. The woodturning of Mark Lindquist has begun to exhibit the emergence of such a sensibility.[3]

To produce a form satisfactorily, a rhythm of strokes must be established, and in order to control each each stroke, body movements as sensitive as those of a dancer are required. In this aspect, spinning most closely resembles glassblowing. The control of molten glass is achieved by directing the movement of the gather at the end of the blowpipe; control in spinning is exercised at the contact of tool and metal sheet. In both cases the whole body is brought to bear to achieve results.

While it may be true that tens of thousands of variations of rotational forms have preceded the invention of spinning and as many since, millions more await us. Again, comparison to woodturning is invited, particularly in the work of Stephen Hogbin. His bold cutting of turned forms serves as a primer in a technique revealing hidden dimensions of rotational form.[4] Unlike wood, however, metal gives us the property of plasticity, adding yet more possibilities for the manipulation of rotational segments.

While some knowledge of lathes and tools is useful in selecting equipment, first one must learn how to spin and assess one's needs for its use. Although in commercial spinning shops, full competency is achieved only after at least six years experience, a certain degree of mastery can be achieved in six months to two years, particularly in only one or two materials and in a limited range of sizes.[5]



Comparison of Spinning and Angle Raising

Angle Raising: The position of the disc in relation to the stake has been formalized to accentuate the relation to spinning: the base plain of the formed disc is seen in the same position after each course

Spinning: The disc is slightly smaller than with raising due to the tendency to stretch the metal with the lateral movement of the tool. Fewer courses are required with spinning

From my experience and that of others, I would say that the ability to hand raise speeds the learning of spinning. Experience on the potter's wheel also seems to help.

Good metals with which to start are 1100-1 aluminum and copper, as they work easily and are relatively cheap. Once you are accustomed to the lesser metals, you can try pewter, sterling or tantilum. Brass is one of the most difficult metals to spin. Pewter has the property of being soft enough to respond to every nuance of tool movement and so reacts to errors in an exaggerated manner. Thus pewter is a good material for perfecting technique.

Depending upon your adaptability and knowledge of metal forming, you can be spinning within hours, and developing a fair amount of skill within a few days. The forming procedure is most similar to angle raising.[6] The novel aspects of spinning are the body movements, timing, smoothness of movement and control of pressure (as opposed to force of blow). The most common beginner's error is wrinkling at the edges or just inside the edge. It occurs when too much pressure is applied or the motion of the sweep is uneven. (With practice this might be controlled for decorative effect.) Wrinkling can usually be corrected by the use of a back-stick held on a second fulcrum pin to support the edge of the disc as pressure is applied by the spinning tool to the front. Annealing will be necessary afterwards as the evening of the wrinkles creates uneven stresses. Slight wrinkles can be removed by the proper use of the backstroke. Another problem is tearing, a function of thickness which is controlled by tool diameter, pressure and stroke motion. This most often occurs with excess pressure at either a corner of a square-bottomed chuck or at a place stretched too thin by too much side stroke.

Lathes

The best lathes were produced during the heyday of spinning, from 1900 to the 1960s. The most common lathes are Prybil, Grabo and Spin-Master. My first lathe was a Prybil—a heavy cast iron beauty with Babbitt bearing and leather belt drive. It had a 26″ swing (maximum diameter of work) and a 5′ bed and weighed at least a ton. With the head and tail stocks, legs and tool rest removed, the bed could be carried by four people. The unique requirements of a spin lathe are a thrust bearing to resist the clamping forces of the follow block against the work (thence to the chuck, spindle and bearings), and a tool rest with a series of holes to accept a movable fulcrum pin. Most useful is a live center in the spindle of the tail stock. A live center is one equipped with ball bearings, so that the cone or pin of the center rotates freely with the work and the tail (or follow) block, which holds the work in place. The swing on the Prybils and Spin-Masters runs from about 18″ up to 6′ in some gap bed models. The largest lathes have the head and tail stock mounted separately on the floor and may have a swing of over 16′. For the needs of most metalsmiths a 24″ swing is more than adequate. The gap bed lathes have a piece of the bed removed just in front of the head stock to allow for the greater swing of shallow pieces. Some of the Spin-Masters have an adjustable gap. My current lathe is a blocked woodturning lathe: the head and tail stock have been raised from the bed by the insertion of 6″ boxes of 1″ thick steel between the bed and stocks. The outboard spindle (used in woodturning for large-diameter face-plate turning) has been capped to provide backing for a thrust bearing. This is one of the lathes originally used by Bomco 25 years ago, after having served as a woodturning lathe for some decades before. Generally, it is easier to convert a wood lathe for spinning, because of the swing and the running speed. Speed should be adjustable (either in stages or smoothly) from about 500 to 3000 R.P.M., with most work being done in the 1000 to 1500 R.P.M. range. The tool rest of the wood lathe is easily modified, requiring only the replacement of the rest bar itself with a "T" bar—the square or rectangular bar with a row of evenly spaced holes drilled through the top surface to accept the fulcrum pin. The only limit to such a conversion is the heaviness of the frame and bearings: smaller wood lathes are far too light. On the other hand, machine lathes of adequate swing tend to be too heavy, and the extra gears, drives and other refinements make all but the oldest or rarest bargains too expensive. The drive must be modified to provide proper speed, and the feed drive should be disconnected. The bearings must be able to withstand higher speeds and loads, and a thrust bearing must be included or added. The tool rest may have to be modified to accept heavier loads and an adaptor added to fit the "T" bar shank. The tail stock feed wheel on most machines lathes is too small to give enough momentum to center discs while the lathe is in motion, and too short to allow removal of deeper pieces. Wood lathes have heavier, larger wheels which when given a spin by a snap of the wrist, move the tail spindle rapidly back or forth. Some spin lathes have hydraulic or slide lock spindles on the tail which allow for even quicker stock changes—important in some commercial operations where the time required to load and remove the workpiece is less than the time of spinning.

Spinning Tools (from top to bottom):

three hooks which push from inside the shell (spun form) outwards

two planishing tools which smooth previous tool marks

three tongues or spoons, which are used for general spinning, the compound taper allowing a variable radius at point of contact

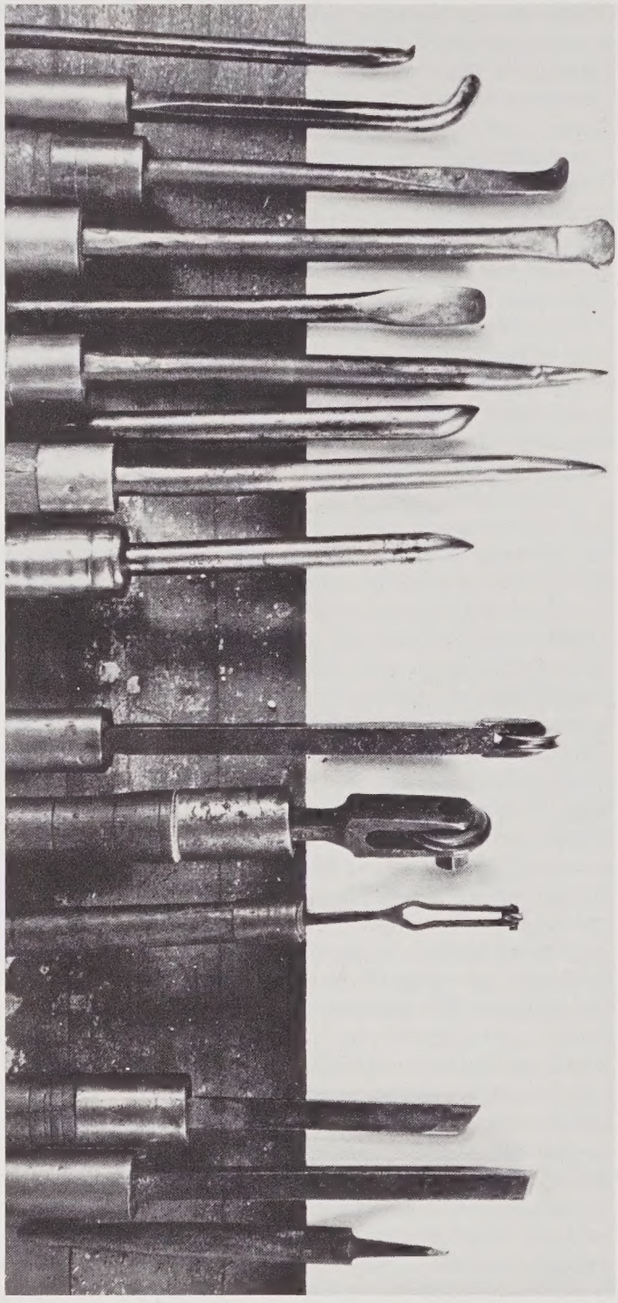
a cone, similar to the tongue but with a constant taper

two wheels for bead rolling and decorative work

a smaller knurling tool for the same purpose as the wheels

three trimming tools: a wood-turning cut-off tool for tight spots, the most commonly used diamond tip, and a hook for deburring inside edges

Not illustrated: a liner—a cutting tool with one or more teeth, used to score decorative bands on the finished shell; a wooden back stick of flat ash or maple, used for temporary support of the disc and also used to center; a wooden ash pole with the end finished to any general spinning configuration, for use on soft metals; a bronze pole, like the above, used for steel; a ball bulb or sphere on the end of a shaft, used for general spinning on large shells



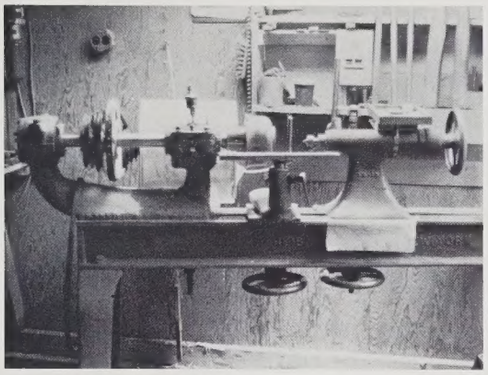
Heavier lathes without expensive automatic additions are not made new in the United States, and imports take much time and energy to acquire and are more difficult to maintain. New lathes suitable for use by metalsmiths are available ranging in price from $2,000 to $4,000. Several used-machinery dealers currently have lathes, and one offers rebuilt Prybils and the like for $9,500 (see *Suppliers* at the end of this article). Your best bet for a lathe is to haunt local used-machinery dealers, auctions and spin shops. Many lathes are owned by retired spinners, who may no longer need them, or who may at least be helpful in finding another (to say nothing of the help they could offer in learning). There are over 200 spinning job shops listed in *Thomas Register,* and many smaller ones can be found in the *Yellow Pages.*

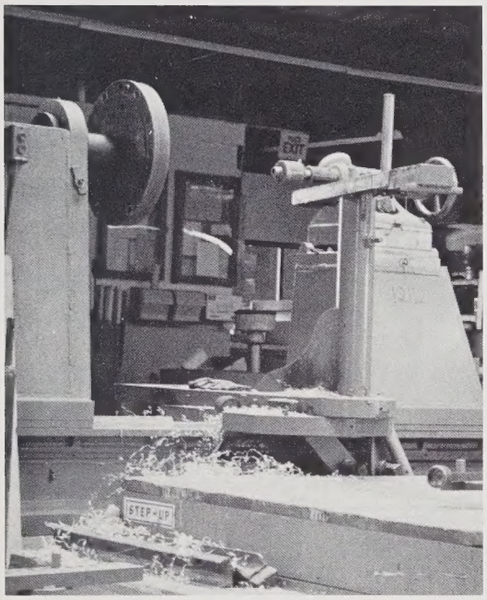
Spinning Tools

The basic hand tools for spinning (the tools as opposed to the chucks—the tooling) are available by mail order, but for versatility, quality and cost, it is best to make your own. Sometimes excellent tools can be found in unlikely places—some of mine came from an antique shop in Rhode Island and some from a cellar in Maine. To make your own, the most basic forging techniques and some hot coals are all that you need. Baseball bats, cut short, make first-rate handles (always with a metal ferrule at the joint to prevent splitting). Most of the forging work is at the tang end of the round ¼ to ¾" cold rolled or tool steel blank, about a foot or more long. Once a tapered square end is made so that the tang grips the hole drilled in the end of the wooden handle, the working end of the tool is formed. The tip can be flattened, balled (by upsetting), bend or tapered as required. Further grinding, sanding or machining refines the shape for final polishing. The tools can be hardened. Brass tools are used for spinning steel. Hardwood or compressed fiber tools can also be used on the harder metals. Cut-off tools can be made from square tool steel blanks, or simply by setting a ¾" lathe bit into the end of a pipe.

Health and Safety

Some instructors have discouraged students from exploring spinning by overstressing the risks involved. If the instructor lacks sufficient skill and knowledge, or time, to properly guide the beginner, it would be best to arrange for study with an experienced spinner. To dismiss spinning as too dangerous is unreasonable. Proper safety precautions are those normally associated with power tools (guards, safety glasses and so on). The greatest risk of injury for beginners is during both the centering and trimming processes, but the risks are minimal





Top Pyrbil lathe with 18″ swing at Danforth Pewter. The flat belt has been replaced by "V" belts. **Above** A 7′ swing lathe at Bomco, Inc.

if procedures are handled properly. Experienced spinners find the most dangerous aspect of spinning to be possible cuts on the hands from the rotating metal. A face shield to keep off flying grease eliminates the problem of pimples. One university professor tells female students that pressure from the tool handle will increase susceptibility to breast cancer; this is totally false.[7] Discomfort from the hard or repeated use of a tool can be alleviated by changing the adjustment of the tool rest and/or the grip on the tool. Expert instruction and normal care and precautions make spinning one of the safest machine procedures.[8]

Spinning affords a speedy, inexpensive, expressive means of forming metal. Its use by artists is just beginning, thus opening a broad new field of expressive possibilities in a mode of established value—forms of rotation, craft esthetic. With normal care and intelligence, it is safe. The equipment is readily available, as are knowledgeable spinners willing to share their experience and expertise. With growing acceptance among metalsmiths, criteria for judging individual pieces will be established, and the role of metal spinning as an artistic tool will be secure.

Suppliers and Manufacturers

Spinning Lathes

New—Prices range from $2,000–$4,000

Wood/Spinning Lathe: Model 170S (1+2), 15 x 48″, ¾ or 1 H.P. *Vega Enterprises, Inc.,* RR 3, Box 193, Decatur, IL 62526; (217) 963-2232

Wood/Spinning Lathe: #159, 12 x 48″, 1 H.P., *Oliver Machinery Co.,* Grand Rapids, MI 49504; (616) 456-1591

Rebuilt—Priced about $9,500

Spinning lathe: Prybil or Grabo, 15″ swing, 3 H.P., *Charles Solzberg & Co.,* 179 Grand St., New York, NY; (212) 226-6044

Used—Prices range from $300–$4,500+

These dealers are either listed in the *Thomas Register* or have recently advertised lathes. Many machinery dealers when asked may have or be able to locate used lathes.

J-B Machinery Co., Inc., P.O. Box 231-T, Whippany, NJ 07981; (201) 386-1903

Mark VI Machine Tool Co., North 2nd St. at 17th Ave., Minneapolis, MN 55411; (612) 522-6519

Estes Machine Co., 120 S. Clinton St., Chicago, IL 60606

Weldon F. Strump & Co., P.O. Box 3155-11 Sta. C., Toledo, OH 43607

Bond Industrial Machinery Co., 499 Atlantic Ave., Brooklyn, NY 11217

Machinery Wholesalers, 3510 Biscayne Blvd., Sta. 316, Miami, FL 33137

Lang Machinery Corp., 14th St. and Dun Ave., Ombridge, PA 15003

Tools

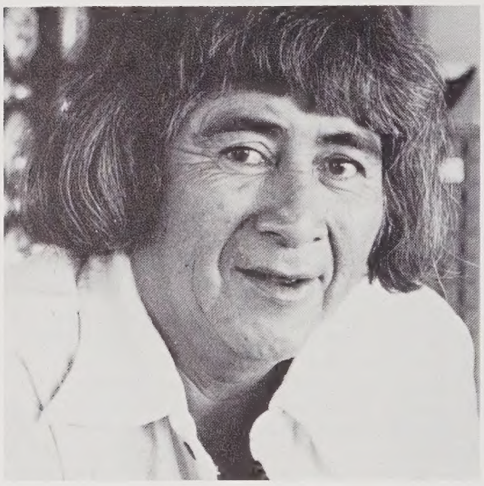
A set of spinning tools is available for $325 from *Oliver Machinery Co.,* Grand Rapids, MI 49504; (616) 456-1591

Notes

1. Carl G. Jung, et. al., *Man and His Symbols,* Garden City, NY: Doubleday, 1964, p. 213
2. In conversation with Mark Stanley, engineer, Bomco, Inc., Gloucester, MA, 1981
3. "Mark Lindquist," *American Craft,* New York: American Craft Council, Oct/Nov., 1980
4. "The Woodturning of Stephen Hogbin," *Craft Horizons,* New York: American Crafts Council, April, 1974
5. In conversation with Joseph Cordera, manager, Bomco, Inc., Gloucester, MA, 1981
6. Richard Thomas, *Metalsmithing for the Artist-Craftsman,* Radnor, PA: Chilton, 1960, p. 25 and section "Metal Spinning"
7. Oliver Cope, MD, *The Breast,* Boston: Houghton Mifflin, 1977, p. 50
8. Joseph Cordera, op. cit.

Acknowledgments

The author wishes to thank the following people for their help during the preparation of this article: Mark Stanley, Joseph Cordera, Dex Rust and Peter Banks—all of Bomco, Inc.; Gail S. Seavey, Lynne Hull, Don Kelly, Fred and Judi Danforth, Patricia Daunis-Dunning, J. Fred Wohl, Lee Kingman Natti, John Russell, and students at the Brookfield Craft Center



Charles Loloma Tradition and an Individual

by Barbara Rockefeller

Above *Silver Bracelet,* with inlaid bands of turquoise and iron wood. **Top right** *Silver Lizard Pin,* inlaid with turquoise and iron wood. **Next page** *Silver Dancing Pendant,* inlaid with turquoise, coral, iron wood and lapis

Barbara Rockefeller, former chairman of the board of the American Craft Council, is a jeweler and collector of contemporary jewelry.

It is 13th Street in New York City. The large room is filled with machinery for sanding, casting and polishing. It is a business-like room, and the very greyness of the equipment is made even more somber by the early spring light reflected off the buildings of lower Fifth Avenue. There is a soft voice, and as it continues, the room fills with colors; clear blue sky, rich brown earth, green and yellow corn, hot desert sunshine, intense turquoise, lapis lazuli, coral, gold. There is movement—the Hopi dancers in ritual ceremonies, children playing and the chuckles of the speaker. The voice is that of jeweler Charles Loloma lecturing on the technique of tufa stone casting. The rest, the vision, is a part of this special man whose life and art are one in the same, inseparable. His Hopi background in Arizona, his friends, the beauty he has seen—all are as essential to creating a bracelet as the silver itself. When Loloma describes the mechanical process of casting jewelry (as he is now in a day-long seminar at the Parsons School of Design) it is as germaine to talk of Rene d'Harnoncourt's friendship and inspiration as it is to recall the Hopi perception of the world and the way the knife cuts the tufa stone to make the mold.

Loloma's heavy grey bangs reach the top of the goldrimmed glasses; a ribbon holds a stubby pony tail, Indian-style. He wears a large gold ring, a badger paw, in recognition of his membership in the Badger Clan. Suspended from a thong around his neck is a gold casting of a potshard. He indicated his pleasure on finding the piece by turning it to gold. Through the slight tint of the glasses his eyes hint that he is about to say something outrageous. Loloma touches everything as if caressing—hammering the finished slab into place is more a cajoling of the metal into shape, helping it take its intended form. Watching Loloma, one senses that every piece of material, every tool, has its own distinct life and that he works in partnership with them, not so much to create as to reveal the hidden beauty.

His voice is strangely soft for someone of such vitality. The impression of shyness is strange, too, for a man who speaks with a confidence that might in another be called arrogance. Loloma speaks of achieving high grades in school, of great people seeking out him and his work, and of the many tributes he has received. Yet it is not so much vanity as the acceptance of facts; facts which please him, perhaps, but for which he takes as little credit as he does his tribal customs and harvests, his family and friends. Loloma knows he was given great gifts and that he uses them well. In return, he shows a reverence for everything around him.

Loloma talks gently, about the craft, about himself and those who have touched his life. When he speaks, a curtain is drawn back, allowing an inner glimpse. He often makes jewelry in this way, allowing a small hole—sometimes a flaw in the casting—to remain, exposing an inner lining of stones. Only the imperfection on the outside gives any indication of something precious within, which pleases Loloma, since he believes strongly that "everyone is a gem inside." Perhaps it is this feeling that enables him to create an atmosphere of intimacy, even when lecturing a class. He transmits a sense of shared vulnerability.

"Charles has done something that does not happen often. He has brought back a form of Indian art to great heights.

Principally, his work is of colors, deftly and dramatically combined. There is the beloved turquoise, then lapis lazuli, and coral, and malachite. Counterpoints are often in black and white of mastadon ivory and ironwood. Loloma cuts the elements into flat pieces and lines them side by side in a cast silver or gold form. Sometimes they are uniformly rounded, giving the effect of stripes, either for the outside of a piece or for the lining. He will leave slabs in natural form, stacking them to appear as a jagged desert landscape. He will take a traditional Hopi corn maiden and give her a sleek, abstracted shape with a body, or just a face, of stones. Like much of Loloma's work, these are finished on both sides, with each becoming the viewing side. It is all clearly Indian, yet the elements are used in different ways—asymmetrically, or in surprising combinations of materials; shapes that soar into space, or are cut off abruptly to make room for another geometric element. Loloma combines rough, unpolished surfaces with the smooth and elegant. Rather than imposing a regular shape to a stone, he will follow the shape it inspires. Earrings do not come in pairs; instead Loloma favors a single, long dramatic dangle. For other pieces, he may capture a stone within interlaced tentacles. The work shows many moods, but always it is unmistakably Loloma—assertive, spontaneous.

The dominating influence is the Hopi culture: The richness of the heritage is Loloma's single expression and greatest inspiration. He may comfortably visit New York or Paris, but it is at home, on the reservation in Third Mesa, Arizona, where his ideas grow, amid the tribal ceremonies and the realization of his roots. "My expression is Charles Loloma—a Hopi," he says, and that sums up the reverence for life that he feels most acutely in the Hopi ceremonies; and his awareness of himself as an individual in harmony with his people. Loloma denies all other influences on his work, except early Egyptian and Colombian, in which he sees a depth of culture akin to his own. He speaks of the pageantry, the dances, the clowns and the children that make up the Hopi way of maintaining that proud link with the past. Yet the sacred rituals which invoke in him a depth of feeling are difficult to share. "When you are leader, and the Kachinas are returning home, you have the responsibility; you feel the blessing," says Loloma. "That is the essence of beauty which is undescribable. The jewelry is exactly like that—not a description, but an abstract feeling."

Loloma's artistic inheritance—his father was a weaver, his mother a basketmaker—bred in him a respect for craftsmanship and skills soon recognized by others. Early, there was Fred Kabotie, the art teacher at Hopi High School; later, Olaf Nordmark would teach Loloma egg tempera and fresco; and from Bob Wisdom he would learn lost wax casting. But above all, Loloma remembers Lloyd Kiva New, his teacher at the Indian School in Phoenix, as the most influential on his life. For along with art, New opened up the worlds of classical music, poetry, the theater. Eventually, the teacher and his student would found the Institute of American Indian Arts in Santa Fe. But first, New took the young artist to San Francisco, where Loloma painted murals in the Southwest Indian tradition and met major figures in the

His positive and creative influence was, and is, a powerful one that has made a big dent and is turning the tides. His art is strong, very much Indian, and beautiful."

art world, among them, Rene d'Harnoncourt. An advocate of Indian art who was active in gaining recognition for the artists, d'Harnoncourt would be instrumental in getting Loloma a Whitney Foundation Fellowship, enabling him to study at the School for American Craftsmen, and, ultimately, to stage a private show in Paris. Loloma still speaks of how his friendship with d'Harnoncourt affirmed his pride in his heritage while encouraging his own individual expression. And at the University of Arizona, Loloma taught with goldsmith and sculptor Svetoza Radakovitch. The two developed a mutually important friendship that would leave Loloma with a sense of personal individuality that remains unshakable even today.

It is the individuality in others that Loloma looks to discover and release when designing jewelry. When he says people inspire him, he means he is challenged by the inner forces of a person, the way they are before modified by convention. Jewelry, Loloma believes, above all art forms, can create the most intimate relationship between the artist and the wearer. It is obvious why Loloma, who treasures people and friendship so much, should find satisfaction in this craft. Perhaps this is why he abandoned his earlier disciplines in painting and pottery for the making of jewelry.

Loloma is aware of the impact of his work on other Indian metalsmiths, helping them emerge from the restrictions of tradition, while using tradition as a liberating force; helping them to develop both a collective and individual consciousness. It pleases him to think that the depth and variety of his own background have opened up new possibilities to others.

Perhaps the most perceptive description of Loloma comes from Svetoza Radakovitch. "One artist, Charles Loloma, Hopi Indian, with strong ties to his culture, land and convictions," he says, "is powerful enough to withstand and not to be washed out by the changes and the tides of time; Charles Loloma is blessed to have what it takes to be able to create an art form in metalwork, unparalleled until now among Indian craft, and to be partially credited for what has happened to Indian art, in concepts and in the process of creation.

"Charles has done something that does not happen often. He has brought back a form of Indian art to great heights. His positive and creative influence was, and is, a powerful one that has made a big dent and is turning the tides. His art is strong, very much Indian, and beautiful."

"It is a real pleasure to put my feelings into words, to describe a man, his work, and his influence the way I see it. Charles Loloma is destined to become a legend. It is a great privilege and honor to be his friend and a small part of his life." ■

Exhibition Reviews

Mokume-gane in Maine
Handcrafters Gallery, Portland, ME
March 15-April 30, 1982
by Patricia Daunis-Dunning
This national invitational exhibit was the largest collection of contemporary mokume-gane pieces ever exhibited in the United States. The show was the collective idea of Handcrafters Gallery owner, Peter Kahn, and metalsmiths Hiroko Pijanowski and Margaret Laws.

The patterning process, although 300 years old in Japan, is relatively new in this country. Most American metalsmiths are just beginning to explore this technique. In some pieces this was apparent. Fascination with the material, or perhaps its preciousness, prevented some metalsmiths from expanding their ideas. However, many pieces showed in-depth investigation by the exhibiting artists. An untitled vessel by Gene and Hiroko Pijanowski displayed obvious comfort in working the material. The large, open copper and kuromido form had subtle whisps of black through the warm brown outer surface. The undulating rim was emphasized by a stripe pattern caused by the controlled exposing of the layers at the material's edge. The interior held a surprising contrast—an intricate wood-grain pattern.

Kathleen Doyle, *Spiritus Cricor* horn, mokume-gane copper and sterling. Photo: John Littleton

The technical wizardry of Stephen Brunst's *Salt and Pepper Shakers* delighted many visitors. A hinged dome in a symmetrical mokume-gane pattern, split open to reveal two half-dome-shaped salt and pepper shakers nestled inside. Another approach to the mokume-gane technique was exhibited in Margaret Laws's bracelets. She combined complicated wood-grain patterns with complimenting repoussé patterns to create a pleasing contrast of two- and three-dimensional pattern.

Coat Pin #1 by Garrett De Ruiter was an elegant marriage of mokume-gane and form, as was Marvin Jensen's *Jar.* This quiet classic form visually lifted up off the shelf while the overall pattern swirled like a whirlpool toward the mouth. Because of the abundance of brown and black patterned metal in this exhibit, pieces which included unembellished metal surfaces were a relief.

Five brooches by Marsha Zion were a marvelous graphic display in which she used shapes of mokume material, unpatterned metal and wire inlay in a soft, square format. They worked as a group as well as separately. Kathleen Doyle's *Spiritus Cricor* was a pleasing balance of warm, rich-colored mokume-gane and sterling. This piece was so well thought out and crafted, the mokume-gane looked as if it truly belonged.

Actual use of wood with this technique did not appear as often as one would have expected. Two knives by Ken Coleman combined ebony in one and rosewood in the other with endgrain (striped) mokume-gane. This served as a transition from the wood to the stainless steel blades in these elegant forms.

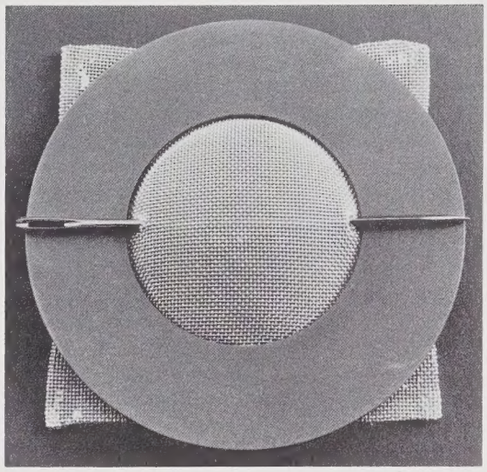
Gallery assistants were well informed of the mokume-gane process and explained it to customers. Because of the success of this exhibit, Handcrafters Gallery is planning a 1984 mokume-gane show. A collection of slides of this exhibit are available for sale. For further information, contact Peter Kahn, Handcrafters Gallery, 44 Exchange Street, Portland, Maine 04101.

Pamela Ritchie: Metalworks
Anna Leonowens Gallery, Halifax, Nova Scotia
April-May, 1982
by James Evans
This show, Ritchie's M.F.A. exhibition, was comprised of 21 pins in two series, purposefully different in intent, form, content and reference. Related only by function, the two series were in their largest sense about contemporary art-craft.

The show was perceptively installed in a completely empty, white gallery. One series *Closures* was positioned central to the North wall. Parallel to this, installed in the same manner, was the series *The Twelve Children of Niobe.* The two series mirrored each other, individual pieces having been mounted on stretched white canvas and the whole situated behind sheets of clear acrylic.

In a prepared statement Ritchie noted the attraction of the pin for the jeweler: "The format of a pin provides an interesting range of associations, references and historical connections upon which to build. . . . This frees the form considerably, and allows it to stand alone instead of demanding the participation of the wearer to make the aesthetic value complete. The extent to which the pin is freed from conventional forms depends on the interpretation of the pin by the artist. In this case I have preferred to remain within the usual boundaries of wearability and comfort, keeping in mind the pin's potential for maintaining interest off the body. The scale of brooches in relation to the human figure is calmly contemplative and best experienced on an individual basis."

The influence of her studies in Norway was apparent in her concern with



Pamela Ritchie, *Closure,* one of a series, stainess steel, commercial needle and silver screen, 5x5 cm

two Northern historical modes: one, the intricate filigree work, which she has frequently used in her earlier jewelry, and, two, the "bunadsylv" (Teutonic-style brooches), which are distinctive in having their pin stems on the front and for Ritchie actuated the outcome of the *Closures* series. The "bunadsylv" style traditionally served a double function, to fasten garments (the material being pulled through the circular opening) and to pierce through material and snap shut. However, in the *Closures* series, the dictates of modernity influenced the contemporary adaptation. Here the historical pinstem was replaced by a modern sewing needle, itself a further reference to industrially produced garment closures, i.e., zippers, buttons and so on, which have made obsolete the need for clothes-fastening brooches. Luminous acrylic discs "give the work a mythological significance . . . the sewing needle aspires to impart an understanding of the circuitous nature of what is considered women's work."

In all of the pieces, either color patterns or screens have replaced the earlier filigree in her work and "the working of the pin, being obsolete, becomes the imagery. The subject matter of that imagery is a metaphor for the transitional role of crafts today."

The second series, *The Twelve Children of Niobe,* was as concerned with from as *Closures* was with content. The title refers to the Greek myth of Niobe, daughter of Tantalus. The myth describes the striking down of Niobe's 12 children by Artemis and Apollo with arrows. Niobe as a result persuaded Zeus to change her into a rock, from which the refractory metals niobium and tantalum derive their names. All of the elements of this myth were incorporated in the 12 brooches, with niobium substituting for traditional gemstones in jewelry. The number of pieces, the arrowlike shapes and the references to stone constituted the raison d'être of the work.

In both series the simplicity of the form assisted greatly in the overall coherence of the show. All the pieces were extremely well-ordered and well-controlled and the craftsmanship was excellent. Pamela Ritchie is certainly to be counted among the handful of contemporary Canadian jewelers who are producing powerful and assertive work.

Bernhard Schobinger
Electrum Gallery, London
May 4-22, 1982
by Anna Pitt

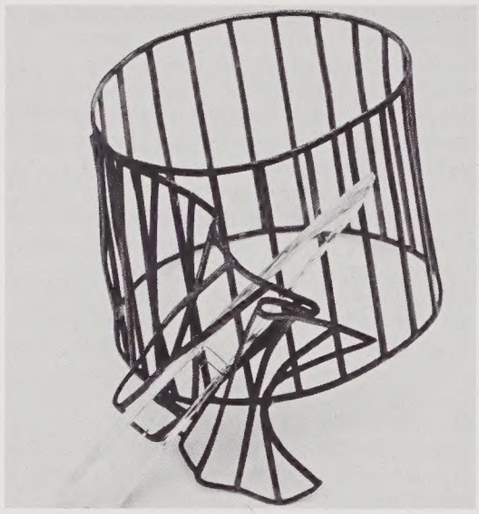
Switzerland has long been derided for producing nothing more inspiring than the cuckoo clock, for its attachment to establishment ideals and for adherance to rules and uniformity. It would appear that our derision is shortly to be stifled, for Switzerland has been quietly nurturing some tremendously creative talent that is about to show itself further afield. Leading the way is the Swiss artist and jeweler Bernhard Schobinger who exhibited 15 years of his work at Electrum Gallery this past May.

One would expect to find a natural progression in viewing 15 years of work, but it is clear that Schobinger concentrated on perfecting his techniques before giving true reign to his expressiveness as an artist. His earlier work explores geometric forms: a steel choker with a pendant of chrome plaited with gold, a heavily twisted ivory bangle inlaid with gold and wide silver bracelets with defiantly cut edges. His perfection and precision mastered, Schobinger confidently moves on to express his artistic concepts with all the éclat and finesse of an accomplished artist.

In picking everyday objects as his subject matter, Schobinger exploits the "double take"; not a new idea in itself, even Fabergé spotted the effectiveness of a simple rose in a plain vase when transformed in precious metals. Schobinger carries on the tradition of all great artists by asking us to reconsider the objects we accept as commonplace. Orange rawlplugs are hung from gold fittings as earrings, shampoo sachets in soft apricot hues are twisted with gold into a neckpiece, a splinter of glass is slotted through a steel grill to form a bracelet, two twigs are also cast into bracelets in unpolished silver representing Spring and Autumn. The overflow of ideas is breathtaking. Clearly he sets himself the challenge of forming jewelry from every available material, the more improbable the better. How many ways are there left to set a diamond? Schobinger casts a ring of cobalt and places his diamond securely between the open shank—a dynamic feat in itself. A diamond also adorns a tiny plastic toy train that links its coaches to form a bracelet, and a diamond hangs from a polished iron nail that falls from a silver earring. On viewing the diamonds set in the ends of royal blue electrical wire twisted into a stunning ring, we feel that the artist is positively winking at us with glee.

Yet Bernhard Schobinger's work is not a joke. Initially, one might be tempted to label some of the pieces "punk," in that he is inspired by everyday and often worthless objects. But Schobinger's work transcends such labels, for his sense of humor and romanticism are never far away. This is most obvious in pieces like his "hidden pearl" ring, where two interlocking shanks display from the outside the bump that holds the pearl, or his twisted-grass ring, cast lovingly in soft gold.

The exhibition presented contemporary jewelry at its best: precision and technique hand in hand with expressiveness and new concepts, new materials and settings, new objects to rethink. The time has come for us to doff our hats to Switzerland and herald the passing of the cuckoo clock.



Bernhard Schobinger, *Bracelet,* iron and glass, 1982

Eric Russell and Caroline Strieb
Vitti Artisans Gallery, Upper Montclair, NJ
May 8-June 12, 1982
by Carolyn Kriegman

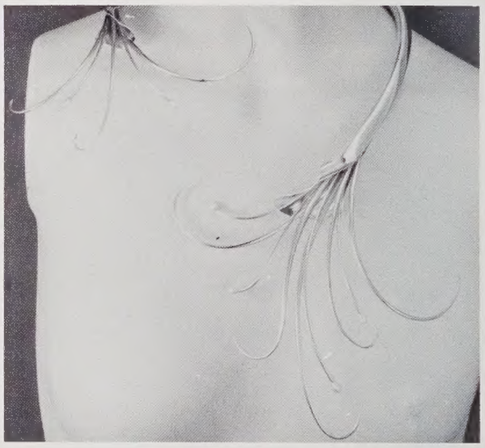
The immediate impression given by the work of both Eric Russell and Caroline Strieb in the well-presented exhibition at Vitti Artisans Gallery was of technical proficiency and self-confidence. The two artists seduce metal to their wills, and mastery of its quirks and foibles seems a comfortable routine. Were the pieces not also so handsome, it would have been easy to get caught up in a fascination with the techniques expressed. Fortunately, however, those retreated to become the substantial base for each jeweler's fairly personal esthetic.

Strieb's pieces, in particular, were not for the shy or unassured. Each of her works was forthright and unambiguous, yet expressing concurrent moments of quiet poetry. A compelling neckpiece, its detachable pendant reticulated, banded silver with abstract 14K overlay, was strung with African amber, Tahitian coral, sliced and polished sections of what appeared to be nautilus shells and large silver tube beads of surface treatment similar to the pendant, a singularly dramatic and desirable work. The tube beads were both ingenuous and ingenious; their construction stimulated creative and appropriate solutions, well integrated into the total concept.

Eric Russell, *Earrings,* sterling silver, 14K yellow and pink gold, pearls and turquoise

Russell's objects were generally smaller in scale, though no less grand in intent or resolution. Elegance, in the most classic term, was true of each. His rings were especially wearable, though more subtle than his earrings, which he seems to find especially intriguing. Precious and semiprecious stones, pearls of variety, several shades of gold, finely wrought surface embellishments, a voluptuous addiction to detail, were all cleanly manipulated to become elements of obvious value in a timeless whole. In only one ring, in all other ways wonderful, did the shank's sharp inner edge jar one's awe, but judging by the character of all the other work presented, this was doubtless an honest and readily corrected oversight.

One-of-a-kind and production work both expressed a cohesive visual image, the latter suffering no neglect despite the exigencies of time, duplication and price maintenance. Each design and its realization was handled with equal respect, which recommends the pieces highly, regardless of one's purchasing ability.



Betty Longhi, *Sea Spray* necklace, sterling silver with biwi pearls, 1982

Betty Helen Longhi: Sculptural Jewelry
Delaware State Office Building Gallery, Wilmington, DE
June 2-29, 1982
by Anne Krohn Graham

Betty Helen Longhi's show, "Sculptural Jewelry," was presented with impeccable care but was not what the title indicated, except for a few pieces. My favorite work—successful in both being functional wearable jewelry and integrating beautifully into a complimentary table form—was *Helicoidal Creature,* a bracelet and stand. The viewer had no doubt as to its dual function, as a large, descriptive photograph accompanied the piece. Three other pieces were also shown in large black-and-white wall photos, allowing the viewer to understand the work as it fits onto the body. This all added to the effective presentation of the work, which was carefully coordinated in musuem plexiglass cases.

In Longhi's statement which accompanied the show, she indicated she

wanted foremost to be recognized by her peers, top innovators and practitioners in the field. If this was her goal, I wondered why so many of her 65 pieces were commercial production work. Was it in anticipation of a buying audience? I understand that much of her simpler work sold.

The thrust of the show was disappointing in the execution of its concept. I felt the work should have concentrated on fewer, more major efforts. Looking at the show as a peer, I found the production work distracting and boring in combination with major sculptural pieces. Particularly bothersome was the overuse of a standardized neckwire. Perhaps a more challenging derivation on the fabricated, forged or shell-forming system would be in order.

Technically striking was the brilliant patina contrasted on the nu-gold as applied to three-dimensional forms. Colors ranged from pink and purple to gold and brown.

Several more pieces of the caliber of *Helicoidal Creature* would have turned the show around for me. I saw promise in Longhi's interest to work with a dual-function concept, primarily in shell-forming techniques. I feel this should be developed further and given total concentration if her work is to be featured again in a solo sculptural exhibition.

Statements in Sterling/82
Sterling Silversmiths Guild of America, Lever House, NY
June 2-23, 1982
by Ivy Ross

The winning entries in the 24th Sterling Silver Competition, along with 84 other selected entries, were on view recently at Lever House. The number of entries and the number of schools participating was up this year (161 entries from 61 schools), despite lower enrollment in some schools. This compares with 157 entries from 57 schools last year. The decision last year to preview the exhibition in the midwest, at the Society of North American Goldsmiths' conference in Kansas City, presented an opportunity for many students and teachers to view the exhibition in its totality for the first time. In the past, the pieces were previewed on the East Coast. This midwest exposure rejuvenated enthusiasm for the competition. Judges for 1982 were Gary

Charles Crowley, *Oil and Vinegar,* second prize, sterling, gold plated interior, wood handles and finials of azure blue, Boston University

Craig Clifford, *Caviar Serving Bowl,* fifth prize, sterling and nickel silver wire, San Diego State University

Nemchock, Professor of Art, University of Kansas, Reno Pisano, Corporate Director of Product Development, Towle Silversmiths; and Yoshiko Yamamoto, School of the Museum of Fine Arts, Boston.

This year the Sterling Silversmiths Guild awarded a total of $4,500 to the designers of the 10 winning pieces and a special prize of $1,000 for the best flatware entry. This new, special prize increased the number of flatware entries from 14 last year to 34, although only four sets of flatware were chosen, including the Special Flatware Prize awarded to Carrie Harper, from Boston University. The other winners were: First Prize, John Dillion, from the University of Kansas, for a *Chalice;* Second Prize, Charles Crowley, from Boston University, for an *Oil and Vinegar Set;* Third Prize, Sandra Spezzano, also from Boston University, for her *Napkin-Rings;* Fourth Prize, Beverly Chesterly, from California State University, for her *Salt and Pepper Set;* and Fifth Prize, Craig Clifford, from San Diego State University, for a *Caviar Serving Bowl.* Honorable Mentions went to Hanping Chang, from San Diego State University, for a *Teapot;* Sam Farmer, from Pittsburgh State University, for his *Goblets;* Daniel P. Taglia, from East Tennessee State University, for his *Sauceboat;* Mary Traver, from the University of Kansas, for her *Flower Container;* and Raychel Wengenroth, from SUNY, New Paltz, for her *Ladle.* In addition to receiving cash prizes, the winners also made it possible for their schools to receive grants from the Gustav H. Niemeyer Memorial Educational Fund, totaling one-half of each student's prize money.

The 1981 entry blank stated that you were allowed one entry other than articles of personal adornment, designed for function or esthetics. This year, the competition placed particular emphasis on items expressing the beauty of sterling silver, in functional, tabletop forms. This emphasis presented a new challenge, which forced students to think and design differently. In most cases, this new direction proved successful. No longer could one get away with impressing the judges with how many techniques one could work in a nonfunctional piece, but rather, methods had to be selected which would best enhance the function of the item to be executed. Thereby, the technique was dictated by the design, not the design from the technique.

Many of the past winners' work, although amazing in construction and certainly creative in concept, in my opinion, did not promote sterling silver, as they were not accessible to the general public. I am much more impressed with someone who can produce a beautiful, creative form for something as simple as an oil and vinegar set than a piece that relies on the label to tell the viewer what it is.

Of the winning pieces, the *Salt and Pepper Set,* the *Oil and Vinegar Set,* the *Napkin Rings* and the *Teapot* were some of the pieces I felt handled the challenge well, with the successful combination of silver and other materials. Too often, a stone or a piece of plastic will be added, just to show off another skill, rather than enhance the form of the object being designed. The *Caviar Serving Bowl* I found to be elegant in the use of inlayed wire on a bold, dramatic form, as was Son Kye-Yeon's *Relish Dish.* It was interesting to walk through the show and see the contrast between those who insisted on being conceptual and those who had concretely solved the problem. I found some of the unique tableware pieces, such as the *Silent Butler Table Crumber* by Peter Shemonsky, the *Dinner Bell* by Katherine Davidson, the *Honey Server* by Roger Horner and the *Tea Strainer* by Susan Bringa Davidson, very refreshing. There were some very beautiful "just plain forms," as in the *Butter Dish* by Andrea Jones, the *Scored and Folded Bowl* by Darcy Love, the *Demitasse Spoons* by Susan Gawecki and the *Twisting Bowl* by Robert Oppecher. On the other hand, two pieces that I felt showed multitechniques that were successfully planned as part of the design were the *Ceremonial Wedding Platter* by David Freda and the Enamel *Teapot and Teacups* by Linda Darty.

This year's show was very stimulating and exciting. With its new direction, my hope is that those who have proven their skill in functional design might use this as a springboard for future opportunities, thus having a true impact on the sterling silver industry.

Hanping Chang, *Teapot,* honorable mention, sterling delrin and inlaid silver wire for the handle and finial, San Diego State University

Gold '82 Jewelry Design Competition
sponsored by International Gold Corporation
by Ivy Ross

The International Gold Corporation (Intergold) recently held its second competi-

Mark Stanitz, *Pin/Pendant,* grand prize in Category D, 14K gold, ivory, diamonds, sapphires, pearls and enamel

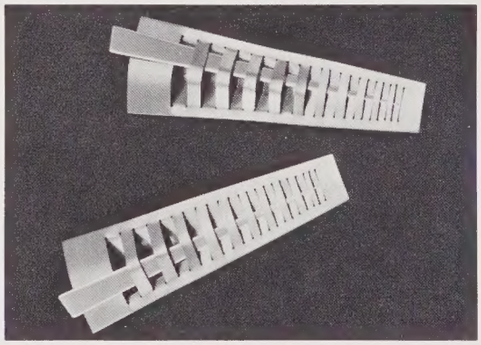
tion, "Gold '82," to celebrate design excellence in gold jewelry in the United States. A 31-piece collection of winning designs was selected from over 570 entries submitted by professional and student designers throughout America. The judges for this year's competition were: Robert Ebendorf, Professor of Art, SUNY, New Paltz; Ron Leal, New York City fashion designer; Jane Tuma, Associate Fashion Director of Accessories for Saks Fifth Avenue and Irving Wax, Chairman of the Board of WaSko Gold Products.

"Gold '82" was actually two competitions: one for professional designers, manufacturers and retail jewelers (who submitted pieces of jewelry), the other for students enrolled in jewelry courses at U.S. schools and colleges (who submitted sketches or models—executed pieces in copper, brass or bronze, then gold plated). The primary objective of "Gold '82" was to "stimulate the creation of new gold jewelry which is well designed, fashionable and, above all, marketable to the American consumer." To achieve this goal, designs of at least 14K gold were entered in the following categories: Category A, "Marketable" Gold Jewelry (limit: six pennyweights of gold); Category B, "Classic" Gold Jewelry (limit 100 pennyweights of gold); Category C, Cufflinks; and Category D, Gold in Unusual Combinations with Other Materials.

The four professional Grand Prize Winners were selected from among 213 entrants from 33 states. The judges awarded 23 Certificates of Merit out of 447 professional entries submitted. In the student category, 54 students entered a total of 124 designs. They represented 19 different schools in 16 states. The judges awarded one First Prize and two Second Prizes, along with 9 Certificates of Merit in the student competition.

The staff of Intergold was both impressed and excited by the work submitted by unknown individuals. They were happy to see a number of entries from universities and colleges in the professional category. They were also pleased with the number of entries from young, creative goldsmiths not located in New York or Providence, Rhode Island. Many entries used "academic techniques" and mixed media in "risk-taking designs." The creative designs by these artists were highly appreciated and many of them were award winners: Mark Stanitz, from North Carolina (Grand Prize Category D), Rachelle Thiewes, teacher at University of Texas at El Paso (two Certificates in Category B), as well as Michael Good, from Camden, Maine, Betsy Fuller, from Florida and Carrie Adell, from California, among others.

This competition, which will be repeated in the near future, provides an excellent opportunity for the goldsmith to potentially develop a new marketing audience. The jurors themselves are using the winners as resources for their individual areas, whether that be selling in a store, such as Saks, accessorizing a fashion show or working with a manufacturer to design a collection. A handsome color brochure of both award and merit winners was distributed throughout the U.S. to publicity people, as well as to schools and retail outlets. This exposure would really benefit any goldsmith trying to build his profile. I would strongly urge jewelers to take advantage of this opportunity and to get on Intergold's mailing list now for the next competition: Intergold, 645 Fifth Avenue, New York, NY 10022.

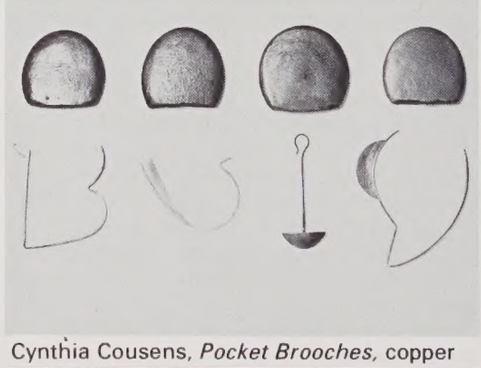


Rachelle Thiewes, *Shutter earrings,* certificates of merit Category B, 14K gold

Royal College of Art Degree Show
Kensington Gore, London
June, 1982
by Barbara Young

This year's Degree Show of the School of Silversmithing and Jewelry, beautifully crafted as always, contained some exciting and diversified approaches. Following last year's exhibition of "sputtered titanium" fashion jewelry, this show represented a fresh surge of creativity and introspection. The graduates had certainly not looked to their predecessors for guidance. They wisely chose to go their own explorative routes.

There seems to be a pattern of distribution among the graduate classes at the RCA that allows a proportion of one smith to several jewelers. One can only guess if this represents in any way the reality of the marketplace or a conscious staff philosophy.



Cynthia Cousens, *Pocket Brooches,* copper

The one smith, G.A.V. Grose, produced vessels and containers of deceptive simplicity, both urbane and memorable. Already, they have enjoyed further exposure in the special September issue of *Vogue,* where they were placed in their proper setting, a rich man's home. Grose used stark geometric volumes as his matrix, softened by the interruption of a circular ridge set at an angle, as if a flat disc too large for the container were inside and pressing outward. This circular theme produced a particularly stunning effect in the large, square Britannia silver box.

The Scotsman Leonard Smith finds drawing his source of inspiration. For him, the excitement is the translation of a two-dimensional expression into 3-D. He has looked to the Egyptian boat as subject matter to abstract, and, one could guess, possibly water as well. The essence of his work lay in the subtle surfaces he has produced which stretch effortlessly, as if they were hovering, over unobtrusive, wire frameworks. The floating, drifting images and trails on these featherlight surfaces were composed of many different metals rolled into the receptive base of fine silver. Essentially he worked here as a draughtsman in metal with an exquisitely delicate sense of touch.

The other three jewelers shared some similarities in their general directions and formal principles. Each experimented with stucture and its relationship to method of fastening or placement on the body, but there the similarity ended.

Trevor Jennings works with great economy and discipline towards producing minimal structures. In his own words, he seeks "a quiet yet potent calmness, balance and an iconic meditative nature." His brooches extended out from the wearer, curved, balanced, in a tension both apparent and actual. He takes into consideration the fabric to which the brooch will be fastened, and the volume it will necessarily have as part of the design itself. In a sense, he produces the visible parts and the fabric will fill in the rest; thus, he works in part with the fibula concept.

The main part of Stephen Bort's work involved the use of coloured golds worked on the principle of mokumegane. The forms themselves were typical of the current British school in their relaxed refinement, small scale, lightness and use of geometric shapes tipped here and there with minute gemstones. The more original part of his work was executed in the last six weeks of the year: hemispherical pewter bowls not quite on squint. All things considered, it was an admirable effort. The surfaces were left dull and variously treated with patinas producing a wide range of smoky hues. This work represented the first experimentation in pewter done in Britain in recent years. One hopes it will spark more investigation into this venerable metal.

In the reviewer's mind, Cynthia Cousens's work was the most original and personally developed. The brooches, functional sculpture, were frequently composed of two parts, each with formal

considerations. The pocketlike forms were hammered from a single very thin sheet of copper, often coloured in warm red-brown yielding an organic quality, like leather or perhaps a seedpod. From these shapes beak or bladelike elements emerged. Springs pulled taut natural openings, sometimes breaking through the walls. Forged wire became the pin or fastening element. Despite their diametrically opposed esthetics, Jennings and Cousens converged on the principle that the fastening element be totally integrated into the function of the structure itself.

It is interesting to note that three of the five students have done undergraduate degrees in silversmithing at Loughborough College of Art and Design. Noted as a vital school overall, it is rapidly becoming the first choice for metalworking students after London.

Harlan W. Butt: Pieces for Japan
Seikado Gallery, Kyoto, Japan
June 12-18, 1982
by Gary C. Cadwallader and
Joseph R. Justice

The Seikado Gallery is the house of Yamanaka Genpei, whose family has been pewter craftsmen since the mid-1700s. The long, narrow property has a sales gallery in front, family living quarters in the middle and a traditional tea house and thick-walled storehouse in the back. This storehouse has been converted into a high-ceilinged gallery space, where many of the traditional metal craftsmen of Kyoto have shown their work. To a small, private gallery, a drawing of 500 people over the one-week period was both a joy and a trial. The pieces, 20 in all, were displayed in part of the front gallery and in the storehouse gallery. At the same time tea was served in the tea house, where one choice object was on view. Five of the objects were cups, two were incense containers,

Harlan W. Butt, *View 3,* from a series *1001 Views of Mt. Mu*

one an incense burner, and a set of go-stone boxes and eight pieces were containers that could be used for the tea ceremony.

If you were hurried, tense, looking for a thrill, then you would not have even noticed Harlan Butt's enamels. Even in the quiet and peaceful surrounding of a Japanese warehouse, white walls and old wood beams, the pieces were lost. However in a Japanese room with tatami mats, rich earth-toned walls and warm green tea, these pieces whispered. Butt's works were quiet statements, "memory switches," that ignited memories common to all people. Almost every piece had an original poem incorporated into the material of the piece. The poems and pieces interacted, sending viewers wandering through their own memories.

Six pieces from a series *1001 Views of Mount Mu* were based on the thin tea container called a *natsume,* used in *chanoyu,* the tea ceremony. However, the uninitiated viewer could have gotten a feeling for the tea gathering simply from the open shape and decoration.

View 2 was a beige and purple enamel lidded container with a dusty fingerprint smeared across the top. The accompanying poem read: *Beneath my desk too / The dust settles while outside / The wind sweeps the grass. View 3* had a pronounced front, a leaf pattern, the background was a very rich visually textured gold and brown. Its poem: *Sunlight through the leaves / Casts brocade patterns on the wall / They shimmer with the wind.*

Traditionally, incense burners are half-filled with ash and have a small piece of lit charcoal on which the incense is burnt, so a small burner gets quite hot. Butt's incense burner was a hand-sized raised copper shape. There was no "design" but instead a field of rich, warm, dark-red transparent enamel of intense clarity, depth and intriguing visual texture—an invitation for close inspection.

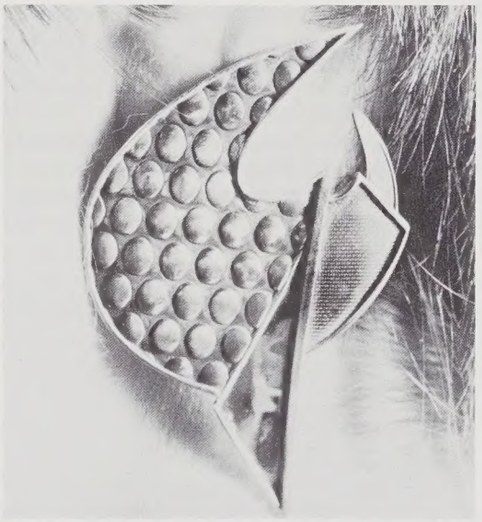
With all the pieces, the poetry and the object caused mental reflections and reverberations. These personal feelings were reinforced by Butt's technique. The objects were hand-sized, to be handled, rounded, smooth shapes. The tones of the enamels were subtle, practically unnoticed until the piece was in your hand. The edges of the layers faded, creating few, if any, lines, drawing your gaze deeper and deeper into the surface.

To us it was obvious that Butt has been greatly influenced by Japan. On this, his second visit, he took several traditional Japanese shapes and used them for his own ends, then reintroduced them to the traditional craftsmen of Kyoto, refreshed and new. He did not adopt the vocabulary of Japanese metalcraft but kept what was familiar to him and stated it in a manner accessible to Japanese craftsmen.

Marci Zelmanoff
The Elements, New York City,
Spring, 1982
and Jewelers Association Trade Show,
New York City, July, 1982
by Glenda Arentzen

Marci Zelmanoff's recent pieces recall the familiar exhilaration felt when viewing her new work a decade ago. But the theme now has been refined to give the viewer and wearer a deeper satisfaction. There is more breadth of concept, complexity of line and form in each individual piece and, best, a balancing of order and emotion where previously emotion prevailed. The works are rich in subtle color and texture, totally controlled and clearly exhibit technical competence, not an essential part of her early work.

Zelmanoff presented about 100 works both at The Elements Gallery and later at the JA Show, where she added a cast production line. The Elements show was dominated by earrings, though other functions were displayed. In one group, the patterns were perfect jigsawed pieces in mixed metals, meticulous mirror-images for the ears. The metal was 26 gauge with black and dull-gold patination. The overall form was frequently sharply directional, with the interior spatial divisions relating to the dynamic of the exterior. Single round wire linear details accented this concept. Occasional screening or matt tool patterns were used to enrich the flat surface in an appropriately flat manner. The whole was a medium-sized flat earring which related to the curves of the ear and yet whose angularities also liberated it from the ear.



Marci Zelmanoff, *Earrings,* bronze, sterling, nickel and 14K gold, 1982

Another group of earrings was textured through tight rows of decorative, plain and twisted wires in softly geometric format. I found these to echo more the wearer's clothing texture than body structure. A third group used multiple wires to define space, leaving an open construction, a lacey look that defied the feeling of weight that the overall size might give.

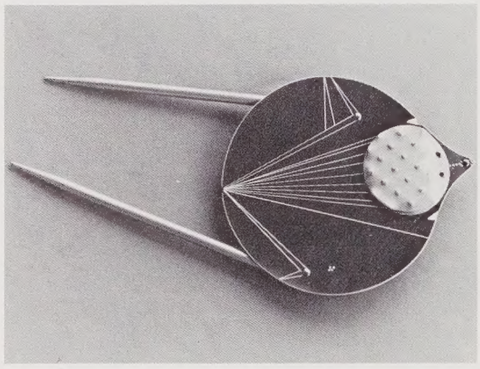
The production line was most allied to Zelmanoff's earlier work, the bubbly, multiwire pieces for which she is well known. These were mostly earrings and pins cast in a variety of metals and sometimes plated with gold or copper. The works were executed with the help of contractors (caster, plater, polisher, etc.) at a price competitive with that of manufacturers who supply jewelry stores. The work sold well at the JA Show, in the New Designers' Room. Even more encouraging, the one-of-a-kinds sold with equal success and at higher prices.

Growth/change is the natural state of things. Zelmanoff continues to grow and change while retaining the essential elements of her style. To move beyond the comfort of the known, especially that work which has provided a secure financial base and much public acclaim, is a special characteristic shared by Zelmanoff with few other goldsmiths.

David LaPlantz
Contemporary Artisans Gallery,
San Francisco, CA
August 3-28, 1982
by Alan Revere

"A constant blitz of ideas and objects to dazzle the mind leads to exciting, thought-provoking art!" This statement about his approach to teaching is an accurate description of David LaPlantz's newest body of jewelry. Praised by *The New York Times, The Los Angeles Times, Ornament* magazine and others, the current collection is composed primarily of brightly colored anodized aluminum shapes and forms held together by small rivets, which are integral to the design. The work is bold, vibrant, intriguing and eminently wearable. It represents the total commitment of a vital and exuberant artist exploring the definitions of fashionable adornment.

With awards as far back as 1963, David LaPlantz most recently produced an impressive series of handmade banks, which he calls *Depositories.* They are elaborately and painstakingly fabricated of diverse materials such as steel, copper, aluminum, chains, shells, ribbons and so on. Each *Depository* represents many hours of labor, with days or even weeks passing between conception and realization.



David LaPlantz, *Hair Pick,* aluminum, 1982

Now, however, the artist has set himself a new challenge: To create a series of easily produced and affordable handmade jewelry while retaining the originality and uniqueness of his one-of-a-kind sculptures. Unlike the previous series of banks, the jewelry is totally spontaneous, with only a preliminary sketch, perhaps, and then into the metal to play out real-life dreams in anodized technicolor. This year LaPlantz has produced over 250 of his unique wearables in about as many days. This is in addition to a 30-hour per week teaching commitment. David LaPlantz disproves the cliché which says that, "Those who can . . . do, while those who can't . . . teach." Last year he was honored as the "Most Outstanding Professor" at Humboldt State University, where he has headed the Metals Department for 10 years.

The most remarkable aspect of David LaPlantz's new work is that each and every piece is individual. Be it a brooch, pendant, hair pick, earrings or bracelet, each is a startling answer to his challenge. Each takes the viewer/wearer on a mini-journey through LaPlantz's personal explorations of geometric and curvilinear form. Many contain implausible perspective riddles and graphic patterns to stimulate the mind. Each piece is a spontaneous work of art, or, equally, the work of an artist.

In an age of technological homogeneity, where 99% of the jewelry available in stores is mass-produced, David LaPlantz offers the opportunity for a private line of communication between an artist of wearables and those who seek to adorn their bodies.

Sous
Contemporary Artisans Gallery,
San Francisco, CA
August 3-28, 1982
by Carrie Adell

A collection of 38 pieces of jewelry and objects by the German goldsmith Sous (profiled in *Metalsmith,* Spring 82) were shown at Contemporary Artisans Gallery.

Sous uses 18-22K gold, without solder. Instead, he welds, melts, rivets, folds, roller-impresses, forms and chases. The pieces become an illustrated lesson in goldsmithing, and his work is a salute to the noble metal, its manipulative qualities, its history as a material of strength, beauty, flexibility and integrity. Each of four showcases at the exhibition held a collection of jewels and objects loosely based on a theme. I'll call them spheres, chairs, bike links and armor/textile.

The spheres group featured a tapered tubular collar made of tiny parallel rings of 22K gold, each encircled by tinier granules of 18K gold. These in turn were strung tightly on a foxtail-type core and clasped in the back by a tubular box tongue catch. The resultant texture was a continuous repetition of softly gleaming granules, beaded like the tail of an iguana. Several rings and a bracelet utilized the same pattern of granulated circles emerging from a curved channel of opened tubing. The spheres' showcase also held a five-step display of components illustrating their transfiguration from snips of metal wire, granules and tubing into rings.

Mill rolling thin sheets of gold, sandwiched between steel meshes or irregular patterns of wire produced the textured surfaces seen in a wide cuff bracelet and in the chair collection. The bracelet was constructed of eight or nine hinged rectangular sections of sheet gold, producing a rhythm of alternating busy regular mesh patterns and irregular linear patterns. Two bezel-set cabochons of gold broke the angularity but did not detract from its rhythm. The cuff appeared much heavier than its actual weight.

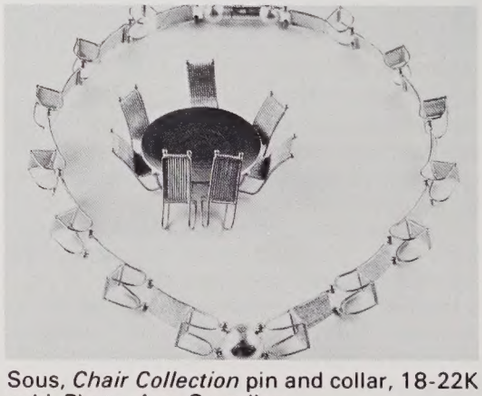
By plaiting or weaving fine wires, or thin strips of gold sheet, Sous further explored fabriclike surfaces, which appeared in several pieces, always in designs of clean, simple classical lines, producing a sort of ordered complexity.

The chair collection gave testimony to Sous's sense of humor. The unit module itself was quite formal—a straight high-backed chair, the legs of which were connected front to back like a rocker and continued upward to form the frame of the chairback. Seat and backrest were at right angles, constructed of gold sheet milled on both sides with steel mesh resembling caning. The frontality and formality of the chair image was reminiscent of Egyptian sculpture, like a Pharaohless throne. Sous played with the module in a number of combinations: linear sequences of chairs hanging side by side around a tubular armlet, cascading rows of chairs dropping from a neckwire at the throat, chairs connected top to bottom by rivets, stacked upon each other in a collar. In the slide presentation we saw Sous's chair imagery expanded into large-scale sculpture, a nine-foot-high chair in stainless steel, upon which were seated two smaller chairs, one upon the other in a geometrically diminishing size relationship. Sous imbued the piece with great dignity and rendered the ridiculous sublime. His design simplicity bespoke elegance. Elegant also were the rich color and gleam of high-karat gold. There were few brightly polished surfaces. The velvety textures, some a result of solderless heat joining, allowed the surfaces of the impressed metals to be fully appreciated.

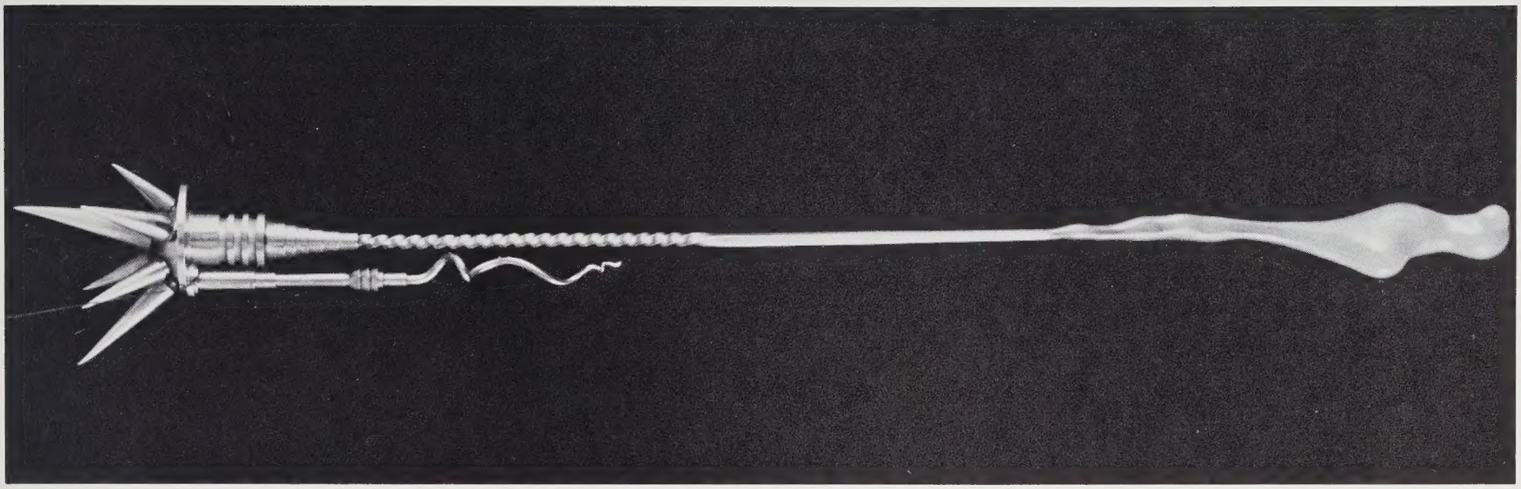
In the group of jewels called *Armor,* the surfaces were most subtly impressed, appearing somewhat like pigskin. Most of these pieces had sections of segmented "scales" overlapping each other and loosely riveted with ball-ended wires. A finger ring extended back over the knuckle with three or four finger-wide segments and moved with the hand's activity. A brooch, slightly domed, chased into ripples on one side, had five segments hanging from it. Worn pinned at the shoulder, the piece became an epaulet. My immediate response to the armor imagery was to associate it with the military. Yet armor in the military sense is ridiculously useless against today's nuclear potential. What was left was the concept of armor as protection. Armadillos have armor. So do lizards, centipedes, crustaceans.

The bike-chain system of joining appeared in bracelets and rings. The basic connections were vertical pins balled and flattened on each end, having passed in sequence through overlapping loops of barbell-shaped units. Gold spindles and beads of varied shapes and precious stones were strung vertically on the pins. These pieces displayed a heavy, nubby texture, giving them a play of light and dark of great depth. The spaces between the elements set up their own rhythm and counterpoint.

In this exhibit Sous demonstrated his skill, versatility and inventiveness. He shared his life outlook with us via his work. His energy and commitment were obvious. He explained to me, "When one plays at one's work, one cannot any longer call it *work.*"



Sous, *Chair Collection* pin and collar, 18-22K gold. Photo: Ann Grundler



David Keens, *Stickpin,* brass, polyester, silverplate, 10 x 1 x 1", 1976

Point-Counterpoint the New Constructions of Keens and Bennett

by C.E. Licka

One of the marked features of the art world beginning in the '70s and continuing into the '80s has been the widening of options for artists of various dispositions. Through the efforts of architects such as Robert Venturi and his pluralistic edicts, the recent popularized anti-purist polemics of Tom Wolfe and a potpourri of artists, ranging from the entropic earthworks of Robert Smithson to the femmages of Miriam Schapiro, we have for the moment escaped the fetters of minimalism. These have been hothouse years in which revivalist tendencies and extra-artistic preoccupations have flourished. And as technical and conceptual possibilities generated new hybrids and combinations, adieus were said to modernism and minimalism.

It was within this climate of pluralism that David Keens and Jamie Bennett began to chart a series of esthetic divagations that incorporated and expanded upon their original metalsmithing heritage. Their 1982 exhibition, "New Constructions" at the University of Texas, Arlington was illustrative of some of the recent directions being explored in metals as well as the contrasting but parallel leit-motifs they share.

C.E. Licka teaches Art History at Temple University, Philadelphia, Pennsylvania.

Eroticism to Decorative Hyper-metal Scapes

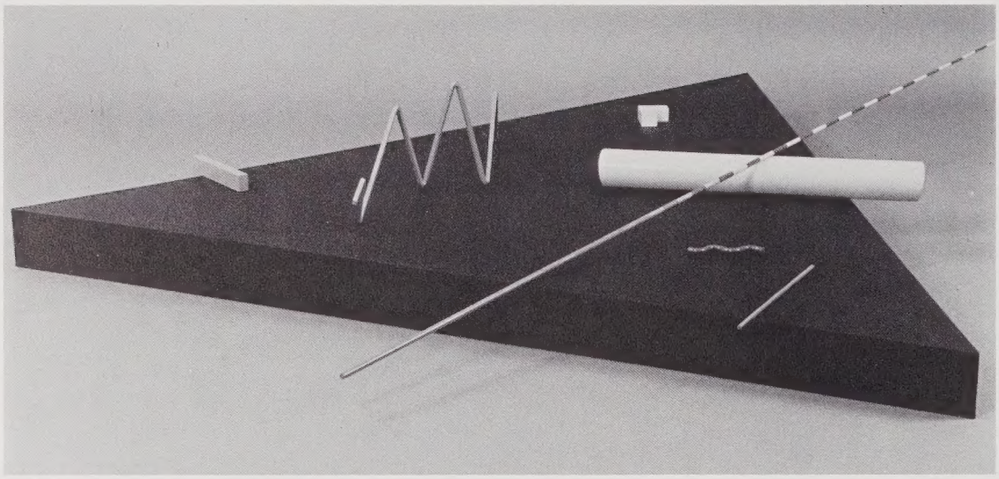
Before 1974, Keen's jewelry was functional in its orientation. However, feeling strapped by functional constraints he began to reject the wearability dictum of jewelry for a metaphorical approach which increasingly became referential. It was *about* jewelry, but it didn't operate as jewelry in the conventional sense. This withdrawal from a functional approach is sensed in his works from 1975-1979 by the way he incorporated the lathe and employed a wide array of metallic and acrylic details that evoke macabre associations—spikes, pins penetrating dense masses or objects, and oozing clusters of blood. Our normal assumptions about decorative ornamentation and jewelry were shattered as we entered a world of mechano-surrealist dimensions that conjure up sadism and black humor.

One immediately senses distant echoes of Surrealism, but it is not Breton's world of the marvelous as much as a series of formal exercises in functionless functionalism. And in some ways, this phase of development is reminiscent of that generic brand of institutional surrealism that developed in the 1960s within the craft area at an increasing rate—for example, altered ceramic cups and plates or those Freshman foundation courses that offered problems in the transformation of a utensil or any other functional item into a nonfunctional one.

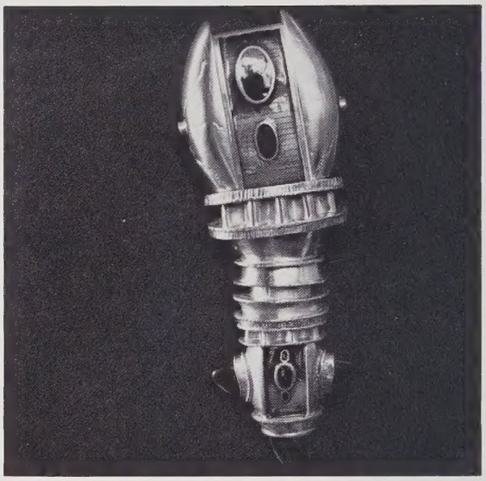
But exclusive of this "generic surrealism," there is a direct and personal connection that stems from Keens's graduate studies at the University of Washington in Seattle. In the Northwest since the mid-70s there has been a strong emphasis on Pop-Surrealistic and ritualistically oriented objects in the crafts and arts. Keens coexhibited with Mark Burns at their M.F.A. Show when Burns was combining ritualistic images with his ceramic tureens. But it wasn't until 1976 that one could see the connection between Keens's *Wounded Stickpins* (1975) and Burns's use of piercing, puncturing and penetration references in some of his ceramic objects. For example, Burns's *St. Sebastian Leaving the Bath* (1976) depicted the martyred saint stepping out of a bath with arrows in his leg. Keens's response to this work was formal in nature and provided him a further stimulus to pursue his own sadomasochistic direction that began with the *Wounded Stickpins.* Works such as *Stickpin 6.0* (1976) and *6.1* (1977) and *Stickpin Ashtray* (1978) were indicative of his development. In particular, the *Stickpin Ashtray* with its miniature cowboy hat turista ashtray resting on a small table with a stickpin thrust through it, and the accompanying blood red puddle of acrylic beneath the table, illustrates a close connection with the Pop-Surrealistic work of Burns. This idea of piercing an object becomes an important concept for Keens in his current large-scale work. He has simply transformed these erotic statements (i.e., the pin as a thin phallic member penetrating a mass) into a more diffuse decorative statement that is concerned with space and movement.

His aggressive weaponlike series of belts, such as *Too Tight* (1976), also convey sadomasochistic overtones. The belt becomes an instrument of torture with dripping blood elements symmetrically disposed around the belt, and one can't help but envision a hypothetical leather and latex victim who must have had an accident in an erotic fantasy of Keens.

By 1979 however, Keens began to develop settings for his stickpins and brooches. The aggressive and sadistic overtones of his previous objects were toned down and displayed like immobilized props or ceremonial objects on geometrically shaped bases. And as Keens was beginning to decrease the Freudian implications in his work he started to explore another direction that would eventually lead to large-scale objects.



David Keens, Dismantled Site 2-2, wood aluminum, plastic, and lacquer. 7 x 7 x 1½', 1982



Jamie Bennett, *Totemic Gold,* enamel, gold, sterling and acrylic, 4½ x 1⅜ x ¾", 1973. Collection: Mr. and Mrs. Buchbinder

In 1979 Keens and Gary Griffin attended the Platinum Workshop in Los Angeles, sponsored by The Gemological Institute of America and Johnson Matthey. In retrospect, it seems paradoxical that these two metalsmiths with their ideas about jewelry were at this workshop: Griffin had already begun to explore throwaway pins and the use of the residue from the processes of fabrication, and Keens was doing metaphorical jewelry. Prior to this workshop they had rejected the use of precious materials and had moved away from the traditional metalsmith's pursuits. For instance, at the workshop Griffin would use the residue from the machine processes and incorporate them into a pin consistintg of platinum filings on a piece of sandpaper. These process-oriented ideas would be used as piles of residue in a variety of shapes and formats in their later large-scale pieces.

During 1980, Keens began to manipulate the positions of his brooches, prefabricatd materials, such as mesh, and other organic forms in relation to the background. The formality, symmetry and stillness of the earlier ritualistically disposed pieces was being supplanted by a dialogue between forms. Yet, even these pieces are loaded with latent sexual references in his series of *Brooches 6.7, 6.8, 6.9, 6.10. Brooch 6.10* conveys the feeling of a mechanical vaginal orifice with protruding spikes poised for its prey like a Venus's-fly-trap. Perhaps it even represents a mother devouring or castration symbol stemming from the unconscious. However, the critical pieces from this period of transition are works such as *Brooches 6.11* and *6.12.* In them we find asymmetry, movement, spatial relationships and controlled randomness emerging as new esthetic and organizational preoccupations. Serpentine-spike tubular shapes snake through space and glance off a ciliated square brooch, or another spiked wormlike form wraps around a pile of metallic shavings gleaned from the lathing process.

These small sculptures were liberating exericises for Keens and paved the way for the new large-scale works in this exhibit: *Restrained Site, The Doppler Shift, Dismantled Site* and *L.A. Beach House.* One is immediately struck by the apparent similarity between these objects and the intuitively assembled artworks of Bay Area Funk and the organic shapes from Zap Comics. But on closer scrutiny, there is still that refined and controlled craftsmanship of the metalsmith manipulating materials, forms, colors and textures.

What is even more critical in assessing these works is Keens's idea of space. Throughout all of these sculptures, the dialectical notion of order/disorder and his earlier concerns with penetration are dominant. He uses spatial frames in order to play with forms in and around them. By using these frames and bases as metaphors for *sites,* as well as space controlling devices or foils, Keens restrains, dismantles and shifts his compositional elements within an imaginative topos. In *Dismantled Site,* objects are randomly dispersed and propped on top of one another. But in *Restrained Site* the frame is bounded on each of the four corners with highly textured and painted geometric forms made up of the residue from the making of the objects themselves. We are literally given the boundaries of this spatial frame before entering a plastic world reminiscent of Miro's surreal canvases of the 20s.

The Doppler Shift is somewhat analogous to what is known in physics as the Doppler Effect: "an apparent change in the frequency of waves, as of sound or light, occurring when the source and observer are in motion relative to one another, the frequency increasing when the source and observer approach one another and decreasing when they move apart." This is what *The Doppler Shift* attempts visually. From a distance, the frequency of the visual signals is minimal, but as one moves closer to the work, they increase. Multiple series of colored dowels and spiked forms are randomly dispersed around the frame in clusters and penetrate its mass. Sinuous elements move in and out of the space frame's interior, or, in the case of the pile of metallic shavings, a long probe moves through space into the bounded zone of the frame.

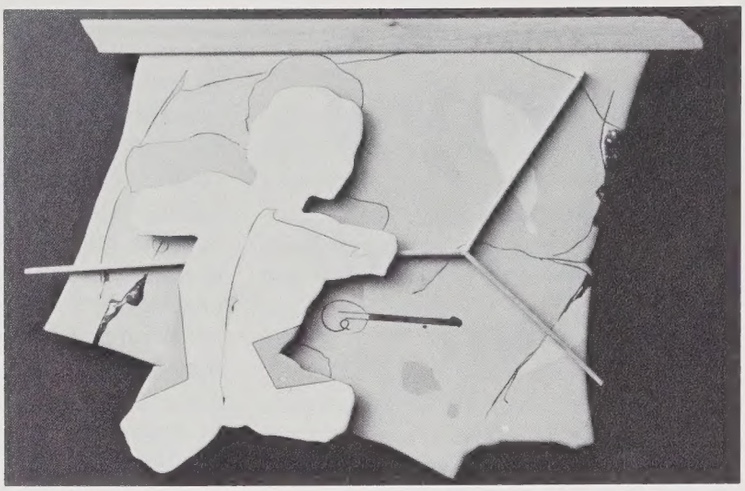
In all of these large-scale works, Keens integrates the concepts of order, disorder and penetration. But instead of decoration reading as a continuous system of visual signals that can sink below the threshold of our attention, he sets up what Bombrich calls "jolts" or configurations that offset our expectations. In a certain sense there are quasi-entropic overtones in these pieces—a kind of ordered disorder.

Sitings: Fragments, Patterns and Figures

At the opposite extreme in terms of scale, but similar in light of their shared ideas about order/disorder, is the work of Jamie Bennett. Crucial to his view of the world is a Heracleitian disposition—the only constant is change. This concept plays an important role in his perception and assimilation of the visual signals he randomly encounters. As a result, chance and indeterminancy are necessary for understanding his esthetic predilections. Yet, there is an opposite facet to his relativism that is just as important—an ordered and calculating sensibility. And it is this synthesis of opposites, or rather, the dialectic between chance and order, or the calculated and spontaneous, that we sense in his work dating from the mid-70s to the present.

Prior to 1976, Bennett had explored a variety of fetishistic possibilities consisting of talismanic necklaces, protective and totemic brooches. During this "primitivist" phase, he used enamel, silver, ivory, acrylic and other semiprecious

Jamie Bennett, *Torn Paper Fragment,* Brooch, enamel, sterling and copper, 1975



Jamie Bennett, *Figure + Fragment 382*

materials to produce different formal configurations and surface effects. Characteristic of his brooches from this period were pieces such as *Totemic Gold* (1975) and his series of *Protective Brooches 2* and *3* (1975). All of these works featured a large, slightly tilted bulbous shape with enamelwork. This abstracted hydrocephalic form was located at the apex of an ascending series of tiered elements and is reminiscent of primitive figurines seen in profile. Along the rising vertical line of a typical brooch, a small tuberous outcropping perpendicularly branches out to the vertical; a truncated element emerges from the tapered point of the base. Eventually, in later work, this tapered element disappears, and what remains is a flattened globular shape with a slight protuberance at the base and top. By eliminating the overt fetishistic overtones, the pins and pendants refer more to charts and aerial views.

Since 1976, Bennett has incorporated abstracted representations of taped and torn paper fragments, fleece and skin, and cloth patterns. Typical of this new direction are his *Taped Torn Survey* (1977) and *Patterned Fragment* series that began in the same year, or his *Sleeve Pattern* brooches, dating from 1978. All of these images convey a sense of clothing or skin flayed from an animal's such as his *Fleece Triptych* (1978). Emptied of their original function as integuments—and the more obvious allusion to cloth patterns in the early stages of assembly or marking out pieces to be cut for sewing—he distills, reconstructs and grafts these motifs to the surfaces of his pins and miniature wall reliefs. These enamel shapes are echoed in multiple formal relationships and are sometimes bisected, reflecting the dichotomous structure of the three-dimensional pin and the interior composition. Furthermore, these forms are scored on the surface with hyphenated and random marks. This results in an arrangement of shapes, colors and lines that set up a succession of spatial planes and contours that move in and out of a shallow space. For instance, *Pivotal Series* (1980), consisting of torso fragments and pattern pieces, is indicative of how the contours of fragmented elements, torso sections and cloth patterns can be sensuously and formally combined with the human figure. And it is this biographical fact that sets off a train of associations. We are not just dealing with formal artistic considerations. There are matters of memory and the unconscious fragments of recollection from Bennett's past that are being pieced together in a new imaging process. In his earlier pieces the figure is in its formative stages and identified by its relationship to patterns, but it isn't through anatomy and the internal structure of muscles and bones that the form is constructed. Collar, cuff, and sleeve parts are used, but they function as synedoche, the part for the whole, in referring to the human figure. In his "Classical Torso and Fragment Series," he synthesizes these earlier "pattern" metaphors to create his own ideal image. The link with classical idealism and the selection of the best parts to create the ideal form is handled ingeniously by Bennett and illustrates an approach to his subject matter that is mnemonic rather than mimetic in nature.

Wall reliefs, such as *Red Site 1181* from his "Site Series," or *Classical Form and Fragment 282* and *182*, indicate the multivalent nature of his thought. Within these micro-worlds, cloth patterns have metamorphosed into figures, or they retain an elusive relationship to abstract aerial views and topographical references. These figures have entered into imaginary environments that are highly detailed and articulated in space. The artistic gesture is Proustian, and all it takes to set the spectator or Bennett reeling back into time is the sight of a red thread on a neutral carpet or a water stain or crack in a wall.

In comparing Keens's work to Bennett's, one notes similar ideas in relation to the idea of order/disorder and the restructuring of process-oriented elements into new formal configurations. However, there is a major difference in how they approach the problem of space. Bennett's painterly-poetic "sites" allow us to enter an imaginative space of miniature proportions. It is this interior mental space or "insite" that is dramatically opposite of the decorative large-scale works of Keens which activate real space.

The differences in their conceptions of space and the scale of their objects necessitates that the spectator must learn to mentally shift gears in order to view these works that are associated with the tradition of metalsmithing. Keens pulls us out of the realm of a metal's context into large-scale decorative work while still maintaining his link with the metalsmith's drive for detail. In the space of the gallery we are cognizant of his new constructions from a distance, and it reminds one of a zoom-lens effect. As we move closer to the object, we begin to read the detail at an increasing rate. But in Bennett's work, the effect is that of a close-up lens which focuses our attention on spatial tensions and abstract images within a miniature dimension. One never really leaves the enamelist's tradition in Bennett's work. But, nevertheless, he has managed to expand traditional references into a highly personal, poetic vision. ■

A 12-page color catalog from this show is available from the University Art Gallery, University of Texas, Arlington, TX 76019.

The new work of Jamie Bennett and David Keens was shown at the University Art Gallery, University of Texas, Arlington, in April of 1982

Preparing the Metalsmith Student for Industry

by Alf Ward

At the last Society of North American Goldsmith's (SNAG) conference in Lawrence, Kansas, it was apparent that many American art and design faculties face the problem of redesigning study programs which will prepare students for industrial employment. While differences exist between the American and British Metalsmithing industries, the following is an account of the background and planning that eventually led to the launching of the new B.A. honors degree at Sir John Cass School of Art, City of London Polytechnic in London.

Origins of the B.A. Degree at Sir John Cass

Planning for the new degree program stemmed from the realization that the level of design management within the silversmithing and jewelry industry was dropping, a coherent research policy absent and product promotion in world markets lacking.

While continuing to foster traditions of the designer-craftsman, the industry clearly faced new technological advances and increased competition from abroad. In view of this, education and training needed to prepare the student for a variety of professional roles, including the areas of design-management, product and company promotion, retailing and research.

Furthermore, it became evident that designers in the silversmithing and jewelry industry, where they existed, operated on the periphery, rather than center, of company management. The improvement of production, the development of new products the marketing development, organization and presentation were all skills which the graduate designer needed a familiarity with as part of the innovative process in industry. To achieve this broader knowledge, it would be necessary for the student to spend time working in suitable design, production and commercial companies.

Traditionally, the silversmithing and jewelry industry had not recognized the designer's role in such a wide perspective. This point highlighted the difference between the design education and professional training proposed by the college and the more specialized training demanded by the industry.

For many years prior to the planning of the new degree program, the Department of Silversmithing and Jewelry had maintained a close association with manufacturers in London, claiming an unparalleled liaison with the industry. In addition, a large number of craftsmen and designers from the London companies had been appointed to both the full-time and part-time academic staff. A four year, full-time diploma program in silversmithing and jewelry had been in existence for a number of years. Many London companies had accepted diploma students for part-time industrial experience during the students' final year at college. This arrangement created an important level of communication with the companies and had familiarized the department with particular needs of the student wishing to enter the industry.

The department had also established and actively maintained an Advisory Committee whose representatives included members of the Worshipful Company of Goldsmiths (2), The British Jewelry Association (2), The Trade Union (3), industrial management (5) the Ministry of Education (1), academic staff of the department (5) and the chairman of the Art and Design Faculty Board (1). In addition to the important discussions relating to the new degree course proposals, the meetings of the Advisory Committee led to a strong mutual understanding between the college and industrial management. For example, Paul Podolsky, chairman of the Advisory Committee and managing director of Albioncraft in London, was most supportive of the degree proposal and actively promoted the new program at external committee meetings within the industry. His influence, with strong backing from Peter Gainsbury, director of research for the Worshipful Company of Goldsmiths, created a healthy liaison with the trade companies.

Naturally, differences of opinion regarding the new degree proposals existed between the members of the Advisory Committee. Some of the controversy related to the fear that employment of new graduates would threaten the career prospects of the traditionally trained apprentices. The

Until April, 1981, *Alf Ward* was Head of the Silversmithing, Jewelry and Allied Crafts Department at the Sir John Cass School of Art, where he led the organization and development of a Bachelor of Arts Honors Degree Program in Silversmithing, Jewelry and Allied Crafts. Since then he and his American wife have resided in Michigan where they have established a metalsmithing studio specializing in silvermsithing, jewelry and blacksmithing. Alf Ward is willing to provide further information on a consultative basis to those art and design faculties involved in re-examining their study programs.

"need" for such designer-craftsmen within the silversmithing and jewelry industry also claimed much discussion time, as did questions about the experience expected during the students' Industrial Placement periods. Much time was spent determining the possible effects of the Industrial Placement on the students' college course and how the experience might be related to the remainder of the study program.

Curriculum Structure
The structure of four-year, three-dimensional design B.A. honors degrees in England is to some extent determined by the Council for National Academic Awards (CNAA). For example, the CNAA required that the program provide the student with a specified period of placement experience within relevant industrial companies. Also, a percentage of the program had to be devoted to the study of history of art and design and complimentary studies.

Based on the requirements of the CNAA, the expressed needs of industry and the education and training aims of the department, the major elements of the curriculum could be established. They were: *1.* Main and specialist studies in the design and practice of silversmithing, jewelry and allied crafts; *2.* industrial placement experience; *3.* business studies; *4.* history of art and design and complimentary studies; *5.* related studies.

Primarily, the degree study program aimed to provide a broad design background, enabling the graduate to enter a rewarding career in the silversmithing, jewelry and allied crafts industry as designer-craftsman, designer-manager or production-manager. In order that the graduate might find employment outside the immediate specialty of silversmithing and jewelry, the program included related studies in metallurgy, plastics, enameling, engraving and die sinking, sculpture and ceramics. It also encouraged the individual students to initiate learning and research, and to develop skills of analysis, evaluation and discrimination, synthesis and effective communication. Moreover, business studies courses and the Industrial Placement would convey a relevant knowledge of industry, commerce and management as well as the professional skills necessary to implement ideas in the business world.

Syllabuses
Visual studies and communication were central to the whole study program. While the program emphasized the development of visual perceptions, other exercises and projects stressed a proficient standard of communication using graphic techniques. Drawing, an essential discipline for the creative designer and craftsman, was recognized as a primary means of analyzing, recording and communicating objective observation and ideas.

There was no formal syllabus for design or design methodology, but it was implicit throughout activity and project of the study program. As the sequence of the design process might vary according to the nature of the problem and working methods of the individual or design team, a general syllabus included the analysis and identification of design problems, synthesis and discrimination between alternatives, effective communication and presentation of proposals.

Exercises in the Materials Study syllabus introduced a variety of materials and production processes. Students were guided in recognizing, evaluating, developing and recording visual and tactile qualities of form and volume, surface texture, pattern and color.

The syllabus for Silversmithing and Jewelry was based upon the need of the designer for a broad understanding of manufacturing processes and a practical knowledge of material forming methods. In the first year, both Silversmithing and Jewelry students introduced students to theory and studio workshop practice. In the second year, the student normally began to specialize in either Silversmithing or Jewelry. Stemming from the design exercises and self-determined projects, the student experienced a broad range of hand and machine production processes including metal spinning, die-sinking, chasing, casting, diamond mounting, stone setting and the related study of enameling and engraving.

The related study of metallurgy introduced the contribution of metallurgy and materials science in the process of design and production. The potential working characteristics of metals and man-made materials were realized with particular emphasis on the precious metals and their alloys.

Plastics, another related study, stimulated interest in the potential of man-made materials as a means of producing new ideas and forms. Sculpture aimed to extend the range of experience and understanding of three-dimensional criteria through the modes of modeling and carving. Related studies in ceramics included hand and thrown work and the application of glazing and decoration in the investigation of the qualities of ceramic materials for a functional context or sculptural form. The History of Art and Design delineated the historical development of the crafts and the designer's role in past and present.

Business Studies
The Business Studies course was directed to the students' needs to develop an awareness and understanding of the commercial environment of the silversmithing and jewelry industry. The four-year syllabus spanned business practices and procedures and the relationship to the particular nature of administration and organization with the silversmithing and jewelry companies.

The first year provided a broad introduction to the business aspects of the silversmithing and jewelry world. Studies emphasized the legal, economic and government constraints within which industrial companies operated in both the British and world markets. The first semester of the second year based on numeracy and accounting, studies which enabled the student to apply these skills to business problems at all levels of the industry. The second semester concentrated on marketing. The aim was to enable the student to distinguish between national and international markets and to recognize and analyze the information which defines a market. During the third year, the first semester dealt with a study of commodity markets, that included the gold and silver market, the diamond and gemstone

market and the world stability affecting the price of gold, silver and diamonds. The second semester dealt with the role of government in determining the market and included a study of tax laws, consumer purchasing power, functions of the Bank of England and government services. The final year concentrated on business administration, industrial law and industrial relations.

Industrial Placement Experience
The four-year program included experience gained within suitable design, production and commercial companies. Two 12-week Industrial Placement periods took place during the second and third years.

The organization demanded in locating Industrial Placement for each of the 24 students each year rested with two college supervisors appointed from the academic staff of the Silversmithing and Jewelry Department. Their responsibilities covered the activities of both the student and the industrial company—from the initial discussion of Industrial Placement with the students and issue of the Industrial Placement Booklet to each company and its prospective student employee, to a final report on each student and placement evaluations. The Industrial Placement Booklet, containing information relevant to the students' placement in industry, included sections dealing with the background and experience of the student; guidance and information for both the student and the industrial company; a letter of agreement between the college and the company; and space for the industrial and college supervisors' evaluation of the student.

The Four-Year Program
The first year introduced the student to the direction of the entire program and initiated personal work methods. It was a diagnostic and probationary year at the end of which a student was guided toward his or her most appropriate area of specialist study. Projects and exercises linked the nature of design with a study of material and basic manipulative skills. Business Studies, History of Art and Design and Complimentary Studies formed 15 percent of the first-year program syllabus content.

The second year introduced the student to a more specialized study of silversmithing, jewelry or a middle course combining the two main specialisms. Six related subjects were studied during the second year: Metallurgy, Plastics, Enameling, Engraving, Sculpture and Ceramics. They were offered as a six-hour period each week with students spending 12 weeks in each related subject area. The student was required to continue to study at least one of these six subjects as a secondary subject during the third and fourth years.

During the first 12 weeks of the second year, students, in consultation with personal tutors and college industrial supervisor, prepared for the first Industrial Placement, which took place from January to April. The students' industrial experience and written reports were discussed and related to the college course work during the final 12 weeks of the second year.

The third year concentrated on design practice projects and the professional designer's role within the industrial context. Business and Complimentary Studies formed a pattern of projects which prepared the student for the second Industrial Placement which took place during the final 12 weeks of the year. With approval, a student could extend the second Industrial Placement into the summer vacation following the third year. Throughout that year the student continued to specialize in either Silversmithing or Jewelry and maintained one or two related studies which had been commenced in the second year.

The final year linked design assignments with industrial experience of the third year. History of Art and Design, Business and Complimentary Studies consolidated a pattern of work fostered during the earlier years. Toward the end of the year students completed their individual design and practical projects, arranged an exhibition of their work and prepared an illustrated written dissertation for final examination.

Evaluation
Over the four years of the study program, students were continually evaluated on their college coursework and Industrial Placement performance. At the end of the first year a qualifying examination required that the student mount an exhibition of the year's work in Silversmithing, Jewelry and associated Design Studies. In addition, the student was required to submit an illustrated essay drawn from studies in the History of Art and Design, and to submit a paper relating to the theoretical relationship of Design, practical work and Busines Studies.

The nature of the final year evaluation was similar to that of the first year with the student mounting an exhibition of practical work and associated Design Studies. The written papers were related solely to Business Studies. The 8,000-word illustrated essay, based on an approved topic in the History of Art and Design, completed the final part of the fourth-year evaluation.

The student received a separate evaluation for each of the two placements from both the college supervisor and the company supervisor. To be considered for the final examination and the award of the degree, the student was required to have satisfactorily completed the two periods of Industrial Placement experience. The criteria used to evaluate the Industrial Placement experience was based on the student's professional skills in design practice, business studies, attitudes and ability to work as part of a team.

Conclusion
Many details of the preparation process, course administration, and subject content of the degree program have only been briefly described here. Clearly, other aspects relate to the overall establishment of the B.A. Honors Degree. ■

Licensing: Gilt by Association

by Terri Lonier

An ongoing series. Terri Lonier is an arts consultant and freelance writer in New Paltz, NY. She is editor of the annual NCECA Journal (National Council on Education for the Ceramic Arts).

Merchandising properties—whether a name, word, symbol, design or personality—adorn thousands of products, from high-priced clothing and accessories to inexpensive T-shirts, posters and trinkets. Kids trek off to school in Calvin Klein jeans carrying Star Wars lunchboxes, while adults are seen wearing sport outfits with Lacoste alligators and striped Nike running shoes. The subliminal motivation behind purchasing designer products can be traced, in part, to the enjoyment of personal identification with the product's merchandised character: for children, this may mean imaginary space voyages and adventures; for adults, a similar escapist experience to the world of high fashion, status and power.

A remarkable offshoot of the burgeoning designer fashion industry has been designer jewelry. Fashion marketing analysts were quick to realize that the demand for quality found in designer brands could be easily, and profitably, translated into jewelry geared to the mass market. Pricing their designer jewelry lines a few points higher than their regular products, these companies have created both well-designed and affordable lines, significantly expanding their audience.

Like other designer apparel, designer jewelry presents a signature—either implicit, through design or materials, or explicit, as in initials. Jewelry carrying a designer name also lends that subtle and often intangible quality of worth by association. As Ann Vayda, Associate Editor of *Accent,* a leading trade magazine of the fashion and costume jewelry industry, explains: "Be it a level of affluence or taste or both, a 'name' brand is the cachet of having 'arrived' whether in fact or in appearance. In addition to status, a designer label also confers those reassurances intrinsic to the 'name.' That is, concurrent with the purchase, an individual buys all that the designer stands for."

With such an array of merchandised products carrying designer names, one quickly wonders how much original input can be generated by the principal designer. Who are the actual designers behind these influential status products? Depending upon the licensing contract, a "name" designer's involvement can range from overseeing every aspect of the design and manufacturing process to merely endorsing the product and collecting the royalties. For designer jewelry, senior staff designers of the larger jewelry firms often work closely with the couture houses in Paris, Rome and New York in an effort to translate the style of the designer's current clothing line into accessories.

For these staff designers, the position of creating a line of jewelry consistent with a known designer's image and style is an engaging creative challenge. Speaking of her work with Avon in creating a jewelry and watch collection for French designer Louis Feraud, Rachelle Epstein explains: "You're doing a better product. One of the reasons designer lines are so successful is their reputation of quality. Customers feel they are buying a well-designed product." For the anonymous designer, Epstein adds, the fulfillment comes from being able to work with more sophisticated designs and better materials. "When price points are higher," she says, "you usually have more fun." For the Feraud line, the French designer works in collaboration with the Avon staff, giving guidance in a manner "similar to an art director."

The ultimate goal for many staff designers is to create a stylized line of jewelry bearing not only the mark of their personal vision, but their name as well. This arrangement can be found in a few companies, such as Trifari, where marketing dollars are being directed toward promoting their own top staff designers, in a sense, creating a "name," and crediting themselves with an outstanding creative discovery.

In contrast, some licensing agreements are the result of negotiations between industry and individual artists. For the studio artist, the path to licensing original work and designs can be a complicated and potentially treacherous one. Speaking to the participants in American Craft Enterprises' Fair at Baltimore last February, licensing consultant Doug Isaacson highlighted the prizes and perils that accompany the licensing field. Isaacson, Vice-President of Alta Marea Productions, has 10 years of licensing experience, including accounts such as Walt Disney and Burt Reynolds. In his presentation, he delineated several key areas to consider when negotiating a licensing contract.

In a licensing agreement, the rights to use a copyrighted or trademarked property on, or as, a product are extended by the owner of the license (the licensor) to an individual or a manufacturer (the licensee). The licensee pays the licensor compensation to use the property; this compensation usually takes the form of a royalty percentage of the wholesale selling price of the product.

While there is no standard licensing contract, Isaacson explained that all agreements share some basic points, including the following:

1. Articles These are the products specified in the contract to be manufactured. The licensor tries to keep the narrowest possible definition of product, while the licensee wants the broadest definition. In defining the articles that go into a contract, the licensor can control to a very large degree what can be done with a product. For example, the agreement can state that the product must be sold at a specific price point, which would insure its selling at selected stores.

2. Royalties The licensor is compensated by royalties, which usually run from 5-15% of the wholesale price of the item. Often this contractual point will include arrangements for advances or a guaranteed sum of money against future royalties.

3. Exclusivity It is desirable for the licensor to obtain legally non-exclusive rights, since this would enable more flexibility. For example, the licensor could potentially market two designs marked at two different price points, under two independent licensing agreements.

4. Terms of the agreement Most licensing agreements run for one year with a renewal clause in the contract. The licensor does not want to give perpetual agreement to use a design. Contracts often stipulate that the licensee must reach a certain level of performance before the license is renewed.

5. Territory Most licenses extend to only one country at a time. Each foreign country usually requires a separate agreement.

6. Approval The licensor wants to maintain the rights to approve the artwork, advertising and the publicity related to the product. Agreements will also often include clauses which guarantee approval of each manufacturing run of the item. This insures that the integrity of the design is maintained. It also protects the designer legally from copyright loss, since the artist could possibly lose rights to a design that is advertised without bearing the copyright insignia.

7. Accounting The licensee should submit monthly or quarterly statements of goods shipped and the amount of royalties payable, accompanied by a check. With seasonal merchandise, these statements are often sent only once or twice a year.

When sizing up a potential manufacturer, Isaacson suggested that several areas be researched before any commitments are made. The licensor should determine if the company has experience in manufacturing and selling this type of product in the past. Client references should be supplied. The licensor can subsequently call buyers at these stores and learn of the firm's reputation. Another area of concern to the licensor should be the amount of time and money the licensee is willing to give to the promotion and selling of the product. The licensor should determine if this will be the firm's major product, or if it will be just one of many licensed items. "An advance to you will also give him incentive to sell your product," Isaacson noted. Preliminary research also includes a check of the licensee's credit and manufacturing abilities, to discover if the merchandised product can be financed and produced in the quantity desired.

To assist the novice, Isaacson suggested that an agent and lawyer be retained. An agent usually receives 25-50% of the gross royalties paid to the licensor. For this percentage, a good agent supplies a knowledge of the industry and its channels of distribution, often providing a detailed marketing plan of how to merchandise the product. Admitting that the field is rampant with opportunists, Isaacson strongly recommended that licensors "carefully study the past track record" of a potential licensing agent. "Look for someone with at least three to five years of experience," he said.

Original designs and artwork should be guarded with care, Isaacson cautioned. "If you have a property and a major manufacturer approaches you expressing interest in your product—he's no fool. You should assume that there is great value in that property. You should treat it as your most important asset." Legal protection by filing copyright papers is an important preface to any licensing negotiations.

When handled well, a successfully merchandised product can translate into significant financial rewards for the licensor. As Isaacson summarized, "One licensing deal can make you more money than anything you've ever done in your career."

Hydrogen Peroxide Pickling

by Bill Seeley

This is an ongoing series by a variety of writers concerning the nature of metals for studio metalsmiths. Bill Seeley is an independent metalsmith who has a M.F.A. from the University of Kansas in metals, particularly titanium. He is also a supplier of reactive metals to artists and the trade.

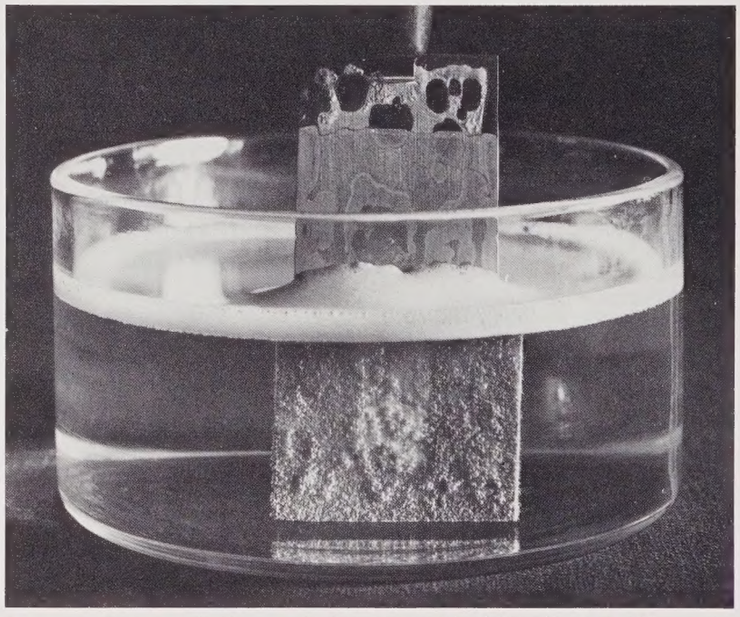
A few years ago, at the University of Kansas, I designed and constructed a neckpiece of brass with many, small, light-gauge parts of copper, bronze and silver. As the project neared completion, I found the surface of the copper and its alloys to be nearly the same color —red. The vision I had of the crisp, hard-edge design was destined to be rounded-off by abrasive removal of this oxide layer.

At the same time, I came across a former graduate paper, "Pickling with Hydrogen Peroxide Solutions" by P. Fintschenko (*Metal Finishing Journal*, June 1974). This article describes a commercially developed process for removing red oxides from copper and its alloys with a specially stabilized hydrogen peroxide (H_2O_2). With the help of FMC Corporation, a major producer of hydrogen peroxide, I have developed the following guide to the use of drugstore variety 3% hydrogen peroxide in the metals studio.

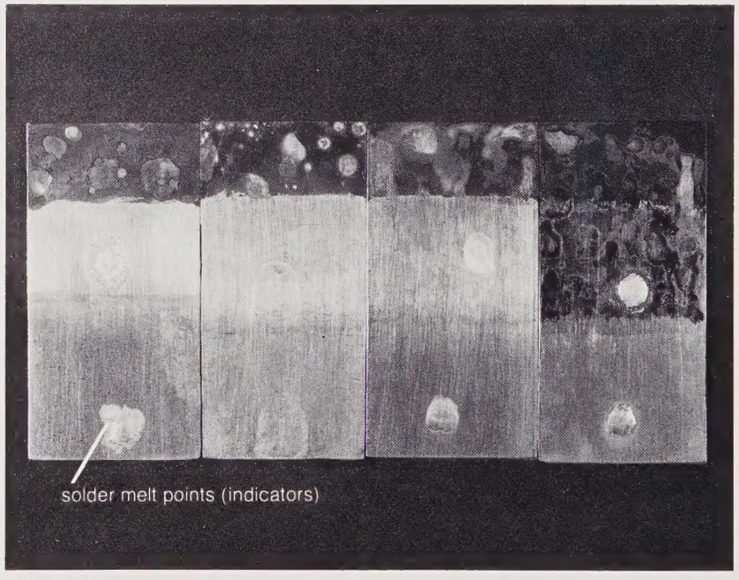
Heat-treating and soldering of copper and copper alloys leave the metal coated with a combination of black (cupric) and red (cuprous) oxide. The black oxide layer is easily removed in a hot sulphuric acid bath; but this procedure will leave a red smut on the metal, which, combined with other undissolved oxides, forms the familiar red oxide scale. The red scale readily oxidizes, leaving a dark, nonuniform patina, and can be imbedded in the metal during subsequent forging and drawing. Abrasive removal of the oxides can result in loss of design details and hard edges.

Hydrogen peroxide pickle eliminates these problems and has the added attraction of being relatively innocuous. The following procedures and formulas provide for the removal of red scale from copper, brass, bronze, nickel silver, reticulation silver and gold alloys. Curiously, it will also remove the natural oxide layer found on aluminum. There is a great deal of latitude in the formulas and a variety of surface finishes and textures that can be obtained.

It is suggested that you run some tests before using these formulas and find the procedure that fits your needs. When working with any acid, the possibility of damaging your work always exists. These formulas will eat a copper alloy piece and leave the silver solder seams standing.



Brass sample suspended in warm hydrogen peroxide pickle with gas bubbles evolving during the removal of red oxides. Photos: Jon Blumb



Copper	Brass	Bronze	Nickel Silver
Step 1 Discoloration due to oxidation, heat treatment to flow point of hard solder			
Step 2 Coloration from red oxide, sparex pickled bath			
Step 3 Natural color from hydrogen peroxide pickling bath solder melt points (indicators)			

Chart indicates steps of discoloration of metals shown in above photo

Some points to remember when using hydrogen peroxide pickles:
1 Adding more acid to the solution will not improve its action.
2 Iron and silver will tend to shorten the pickle's life. This does not mean you cannot put these metals in the pickle.
3 Use only sulphuric acid, Sparex or vinegar as the catalyst in these solutions.
4 Use 3% hydrogen peroxide (H_2O_2) from the drugstore, or mix a 2-3% solution with distilled water and concentrated H_2O_2 (usually 30%), available through chemical supply houses. More concentrated pickles can be used when deep, fast etching is desired.
5 Use these solutions warm (110°F), or about the temperature of a hot bath. The hotter this pickle is, the faster and deeper it etches.

The following formulas can be made as needed, or, they can be premixed and kept for extended periods in their original brown bottle until they become saturated (blue) and stop working. H_2O_2 decomposes rapidly when left out and the active life of these pickles is limited to about four exposed hours.

The acid component of these solutions can be either measured or slowly added until bubbles begin to appear on the metal. This signals that the solution is active.

Solution 1
2 parts hydrogen peroxide (3%)
1 part H_2O
2-4% sulphuric acid or Sparex
Solution 2
½ cup hydrogen peroxide (3%)
1 tablespoon fresh sulphuric acid, or Sparex, pickle (5-10%)

Procedure
1 Prepickle in 5-10% acid, or Sparex, pickle and rinse.
2 Suspend in warm peroxide pickle for 5-10 minutes. Agitate. Rinse.
3 Brass brush or steel wool. Rinse.
4 Pickle in 5-10% sulphuric acid or Sparex to remove any remaining smut.
5 Repeat if necessary.

Solution 3
3 parts hydrogen peroxide (3%)
1 part white vinegar (5%)

Procedure
1 Follow the steps for solutions *1* and *2*.
2 When the metal emerges from this pickle, it will be coated with a thick brownish green smut. This will flash off when dipped in undiluted vinegar.

These solutions can also be applied warm to warm metal with a brush and worked into corners.

Long-term exposure of copper alloys will cause the copper to be dissolved out of the metal surface. Brass, for instance, can be pickled until it turns a bright yellow. Even the mildest of the vinegar solutions can etch deep into the surface if left unattended. Care should be taken and the process watched closely. This acid solution should be handled in good ventilation and the fumes should not be inhaled.

Metalsmith
Index to issues 1/1-2/2 1980-82

Compiled by Joanne Polster

Listings pertain to the United States unless otherwise noted. An asterisk indicates major articles or reviews.

Abbreviations are as follows: il, ils denote illustrations and text; illus denotes illustration only; por indicates portrait; exh or bk rev indicates exhibition or book review.

AGUADO, Deborah Mary Ann Scherr/Sydney Jo Scherr: wearable artworks in metal, enamel (exh rev). 2/1:46,47 W82 (2 ils)

Al, Ronald exh rev. 1/3:63 Sp81

ALBAIR, Stephen *1/3:40-3 Sp81 (7 ils)

AL-HILALI, Neda exh rev. 1/4:55,56 F81 (il)

ALLOYS See also: Gold alloys; Silver alloys; Mokume-gane

AMERICAN CRAFT COUNCIL The American Craft Council Library: information center and reference service for craftsmen. 1/1:52 W82 (il)

ANDERSON, Edwin illus: Pocket knife. 2/2:33 Sp82

ANDERSON, Kristin exh rev. 1/2:64 W81

APPENZELLER, Hans illus: Three map pin brooches. 1/3:19 Sp81

ARCHITECTURE as design motif. Architectonic works in metal/Gretchen Raber (exh rev). 1/3:67, 68 Sp81 (3 ils)

ARCHITECTURE as sculpture Robert Bruno: a sculptor at home with his work. 1/2:23-5 W81 (2 ils; por)

ARD, William Studio mokume 1/2:46-51 W81 (ils, table biblio); Brent Kington. 2/2:24-6 Sp82 (8 ils; por); illus: Pin 1/2:48 W81

ARENTZEN, Glenda *exh rev. 2/2:47-8 Sp82 (il)

ARMSTRONG, Edith illus: Untitled bronze form. 2/1:28 W82

ARNOLD, Tom Jewelry repair: retipping prongs. 2/1:54 W82; Jewelry repair: shortening a mesh watch band. 2/2:54-5 Sp82 (diags)

ART NOUVEAU Lalique. 1/1:6-13 F80 (10 ils); See also: Lalique, René

ARTISTS' collaboration. See: Collaborations

ARTISTS' homes. Robert Bruno: a sculptor at home with his work. 1/2:23-5 W81 (2 ils; por)

ARTISTS IN METAL. Artists in metal, Chicago, IL. 2/2:39-41 Sp82 (6 ils)

BAILEY, Ivan exh rev. 1/4:61 F81

BAKER, Tom and **Bruce** illus: Red tide pin. 1/3: cover il Sp81

BALDRIDGE, Mark Editorial (personal recollections of Richard Thomas and his teaching at Cranbrook Academy of Art) 2/2:3 Sp82; Editorial (criticism of American metalwork and jewelry design) 1/4:4 F81

BALDWIN, Phil illus: Nightfighter IV (detail). 1/2:49-50 W81

BARROS, Anne Master metalsmith: Hero Kielman. 1/2:6-9 W81 (2 ils); exh rev 1/4:65 F81

BANYAS, Martha exh rev 1/2:59, 64 W81 (il); *exh rev 2/1:45 W82 (2 ils)

BARTLING, Christine 2/2:39, 40 Sp82 (il)

BASKETRY in metal. Peter Carl Fabergé: imperial basket of lilies of the valley. 1/3:26-7 Sp81 (3 ils)

BASS Kim exh rev 1/2:62, 64 W81; exh rev 2/1:50 W82

BEAN, Bennett exh rev. 1/4:57 F81

BEAVER, Judy exh rev. 1/3:63 Sp81

BECKER, August Jewelry mid-Pacific (exh rev). 1/3:62-3 Sp81 (2 ils)

BECKER, Frederich—Influence. (Albert Paley). 1/4:44 F81

BENNETT, Helen L. Irreplaceable Artifacts. 1/3:59-60 (5 ils)

BENNETT, Jamie *exh rev 1/1:57 F80 (2 ils); illus: Up, up over Blue Ridge Mountain (also called: You can close your eyes and see me) pin. 1/3:23 Sp81; exh rev 1/4:58 F81

BENSON, Gallen exh rev. 1/4:56 F81 (2 ils)

BERMAN, Harriete Estel *exh rev. 1/4:63—64 F81 (2 ils)

BERNADOTTE, Sigvard exh rev. 1/1:44,47 F80 (il)

BERNSTEIN, Bernard A metalsmith's guide to the Met: New York City's ultimate museum. 2/1:34-7 W82 (4 ils; floor plans)

BERTINO, Linda illus: Geometric oil lamp. 2/1:32 W82

BESSE-SHEPHERD, Anne Enamels 50/80 (exh rev). 2/2:51-2 Sp82 (il)

BETTERIDGE, Lois Etherington (juror) Nova Scotia metalsmiths (exh rev). 2/1:23-5 W82; exh rev 2/2:44 Sp82 (il)

BIRN, Janet Prip *2/1:40 W82 (il)

BLACKSMITHING—techniques. The practical handbook of blacksmithing and metalworking by P. Blandford (bk rev) 1/4:72 F81

BLUM, Evan *1/3:59-60 Sp 81 (5 ils)

BOIN, Whitney American titanium (exh rev). 1/2:62-3 W81 (il); Leomat electronic jewelry Leon Cahn and Mathys Van Manen. 2/1:16-18 W82 (8 ils)

BOLDUC, Roy John *1/3:53-8 Sp81 (12 ils; por)

BOND, Kener E., Jr. Rose engine and ornamental lathes (technical paper). 1/4:22-7 F81 (18 ils; diags; biblio)

BONDI, Steve (lecturer): The sixth Rocky Mountain metalsmithing symposium Summervail Workshop, Minturn, CO 1/3:39 Sp81

BONNIN & MORRIS, illus: Fruit basket of soft-paste porcelain ca. 1770-72. 1/2:28 W81

BONFORADO, Susan Chinese cloisonné: the Clague collection. (exh rev). 1/1:54-5 F80 (3 ils)

BOOK REVIEWS Armstrong, R. Beginning jewelry: a notebook for design and techniques. n.d. 1/3:72 Sp81; Blandford P. The practical handbook of blacksmithing and metalworking (1980). 1/4:71 F81; Burckhardt, L., ed. The Werkbund: history and ideology, 1907-1933 (1980). 1/3:72 Sp81; Crawford, T., Jr. Author. See: Mellon, S.; Jernigan, E. White metal universe: Navajo silver from the Fred Harvey Collection (1981). 2/2:55 Sp 82; Legrand, J. ed. Diamonds: myth, magic and reality (1980). 2/1:54 W82; Liban, F. and Mitchell, L. Cloisonné: the art of cloisonné enameling and jewelrymaking. 1/4:70-1 F81; Replies: 2/2:4 Sp82; McGuire, E. and Moran, L. Pricing and promotion; a guide for craftspeople (1979). 1/4:71 F81; Mellon, S. and Crawford, T. The Artist-gallery partnership: a practical guide to consignment (1981). 1/4:70 F81; Mitchell, L., Jt. author. See: Liban, F; Moran, Lois, Jt. author. See: McGuire, E; Sigurd Persson Smycken (1981). Metals 2/2:55 Sp82; Warwick, J. Designing jewelry (1980). 1/4:71 F81

BOSTON—Museums and Galleries. A metalsmith's guide to Boston. 1/2:40-5 W81 (il)

BOSTON UNIVERSITY, Program in Artisanry. On view (profile of metals program and examples of students' work). 2/2:33-6 Sp82 (5 ils); Three schools in Boston 2/2:37-8 Sp82 (2 ils)

BOWEN, Carole exh rev. 1/3:63 Sp81 (il)

BOX form as design motif. 2/2:27-9 Sp82

BRACELETS Working with Ceceonite (technical paper). 1/3:44-7 Sp81 (4 ils; biblio)

BRACELETS—Exhibitions. Armschmuck: an international competition: Schmuck museum, Pforzheim, W. Germany. 1/1:60 F80 (2 ils)

BRADLEY UNIVERSITY, Peoria, IL On view (profile of metals program and examples of students' work). 2/1:30 W82 (4 ils)

BRATT, Lita S. The sixth Rocky Mountain Metalsmithing Symposium (Summervail Workshop, Minturn, CO). 1/3:38-9 Sp81 (5 ils; pors)

BRAUER, Connie exh rev. 2/1:50 W82; exh rev 2/2:45 Sp82

BREITENBACH, Cornelia exh rev. 1/4:56 F81

BRONZE AGE—China—Exhibitions. The great bronze age of China: Kimbell Art Museum, Ft. Worth, TX. 2/1:41-4 W82 (3 ils)

BROOKHUIS, Harry illus: Armschmuck (bracelet). 1/1:60 F80

BROOKS, Jon illus: Manta ray chair. 1/2:31 W81

BROWN, Claudia Champion vase: collection of Robert and Marian Clague. 1/1:34-5 F80 (il)

BROWN, Leslie F. Photography for metalsmiths. 1/4:48-54 F81 (11 ils; diags; appendix)

BROWN, Marion exh rev. 1/2:58 W81

BROWN, Thomas Illus. California earthquake series pins. 2/1:29 W82

BRUNO, Robert *1/2:23-5 W81 (2 ils; por)

BRUVA, Robert exh rev. 2/2:45 Sp82

BURY, Claus—Influence See: Raber, Gretchen: (exh rev). 1/3:67 Sp81

CAHN, Leo (Leomat) *2/1:16-18 W82 (8 ils)

CAIN, Maury exh rev. 2/1:47, 48 W82 (il)

CALIFORNIA—Metalsmiths See also: Los Angeles—Metalsmiths

CALIFORNIA COLLEGE OF ARTS AND CRAFTS, Oakland On view (profile of metals program and examples of students' work). 2/1:29 W82

CALLAHAN, Teresa Statements in sterling '81 (Sterling Silversmiths Guild of America competition) (exh rev). 2/1:50 W82 (il)

CAPPS, Sarah Jamie Bennett: enamelworks and drawings (exh rev). 1/1:57 F80 (2 ils); exh rev 1/4:68 F81

CARDINALE, Robert L. A decade of metalsmithing in the United States: 1970-1980 1/1:22-33 F80 (22 ils; biblio); The business of jewelry: Ivy Ross. 1/2:32-5 W81 (10 ils; por); jt. author See: Bratt, Lita S.

CARO, John exh rev. 1/4:64 F81 (il)

CARVING See also: Gem carving

CASADY, Robin *exh rev. 1/3:66 Sp81 (il)

CASSIDY, Carol illus: Neckpiece. 2/1:23 W82

CATALDO, Barbara exh rev. 1/4:63 F81

CATLETT, George Illus: Teapot; Knife. 2/1:29 W82

CEPKA, Anton—Influence See: Raber, Gretchen: (exh rev). 1/3:67 Sp81

CEREMONIAL vessels See: Ritual vessels

CHAMBERLAIN, Peter See: Matabi, Congo

CHELL, Sophie exh rev. 1/3:65, 66 Sp81 (il)

CHOO, Chungi *2/2:18 Sp82 (6 ils; artist's statement)

CHURCH, Sharon exh rev. 1/4:58 F81

CHRISTENSEN, Hans *1/1:22,23 F80 (il)

CIVEY, George Arnott, III, jt. author See: Capps, Sarah

CLAGUE, Robert and Marian, collection Chinese cloisonné 1/1:54-5 F80 (3 ils); champion vase, 1/1:34-5 F80 (il)

CLEVELAND MUSEUM OF ART—Collections Masterpiece in metal: the Kingston tureens. 1/4:28-9 F81 (2 ils)

CLIFFORD, Craig illus: Desert survival cup. 2/1:31 W82

CLOISONNÉ—Exhibitions The art of William Harper: Kennedy Galleries, New York City. 2/1:40-1 W82 (3 ils)

CLOISONNÉ, Chinese 1/1:34-5 F80 (il)

CLOISONNÉ, Chinese—Exhibitions Chinese cloisonné: the Clague Collection Phoenix Art Museum, Phoenix, AZ. 1/1:54-5 F80 (3 ils)

CLOISONNÉ—techniques Cloisonné: the art of cloisonné enameling and jewelry making by F. Liban and L. Mitchell (bk rev). 1/4:70-1 F81
COGSWELL, Johnathan Illus: 1/2:29 W81; illus: Copper Pitcher 2/1:33 W82
COHN, Holly Illus: Inner travels (sculpture). 2/2:35 Sp82
COLES, Thelma *2/2:21 Sp82 (4 ils, artist's statement)
COLLABORATIONS Belle and Roger Kuhn. 1/3:66 Sp81 (il); Leo Cahn and Mathys Van Manen. 2/1:16-18 W82 (8 ils); Robin Quigley and Janet Prip Birn. 2/1:40 W82 (il); Robert Ebendorf and Ivy Ross. 1/3:67 Sp81 (3 ils); Robin Casady, Susan Kingsley, Judith Ubick. 1/3:66 Sp81 (il)
COLLECTING The criteria of collecting crafts. 1/2:26-31 W81 (il)
COLLECTORS and Collections See also: Clague, Robert and Marian; Firch, Jan; Forbes Magazine; Lannan Foundation; Museums; Thyssen-Bornemisza
COMPETITIONS Armschmuck: an international competition (exh rev). 1/1:60 F80 (2 ils); See also: Sterling Silversmiths Guild of America
CONFERENCES, Symposia, etc. See also: Rocky Mountain Metalsmithing Symposium, Minturn, CO
CONSIGNMENT Practices Issues: consignment agreements (includes sample contracts). 1/2:52-3 W81; The artist-gallery partnership: a practical guide to consignment by S. Mellon and T. Crawford (bk rev). 1/4:71 F81
CONSTRUCTIVISM Topographical constructivism / Curtis LaFollette (exh rev). 2/1:46-7 W82 (2 ils)
CONTOMPASIS, Marika exh rev. 1/4:57 F81
CONTRACTS Issues: consignment agreements (includes sample contracts). 1/2:52-3 W81; The artist-gallery partnership: a practical guide to consignment by S. Mellon and T. Crawford (bk rev). 1/4:71 F81
CONWAY, Margaret exh rev. 1/4:68 F81
COOPER-HEWITT MUSEUM, New York City—Collections Hot water urn, 1777-79: Thomas Heming. 1/2:38-9 W81 (2 ils)
CORWIN, Nancy Megan Illus: Scene one wall piece. 2/2:35 Sp82
COZZI-OLIVETTI, Vittoria Enamels: into a new decade (exh rev). 1/4:67-8 F81 (3 ils); Lalique, 1/1:6-13 F80 (10 ils)
CRAFT/Art Discussion What is craft, what is art? H. Raleigh. 1/3:20-5 Sp81 (il)
CRAFT Movements, German See also: Deutscher Werkbund
CRANBROOK ACADEMY OF ART, Bloomfield Hills, MI Editorial (personal recollections of Richard Thomas and his teaching at Cranbrook Academy of Art). 2/2:3 Sp82; Master metalsmith: Richard Thomas (interview). 2/2:8-13 Sp82
CRAFTS, Finnish—Exhibitions Finland designs: Craft and Folk Art Museum, Los Angeles, CA. 2/2:46-7 Sp82 (2 ils)
CRAVER, Margret *2/1:6-10 W82 (12 ils; cov. il: artist's statement);
CRESPI, Michelle exh rev. 2/2:46 Sp82 (il); illus: 3 objects in mokume, silver and copper. 1/2:47,48,50 W81
CRITICISM Crafts: second-class citizens? 1/1:14-21 F80 (biblio); What is craft, what is art? 1/3:20-5 Sp81 (il)
CROFT, Michael exh rev. 1/4:68 F81
CUBE as Design Motif Hermann Schafran: design as evolution and organization (interview). 1/3:28-31 Sp81 (12 ils; 3 drwgs)
CUPOLO, Yvonne exh. rev. 1/2:64 W81
DAILEY, Dan exh rev. 1/4:56 F81
DANIELS, Audrey Natalie Paul: recent jewelry and wall-piece combinations (exh rev). 1/2:57 W81 (il)
DAUNIS-DUNNING, Patricia exh rev. 1/4:66 F81 (2 ils)
DAVIDSON, Jaclyn exh rev. 1/3:62 Sp81
DAVIDSON, Marilyn A metalsmith's guide to London. 1/1:50-2 F80; Loot (exh rev). 1/3:65-6 Sp81 (2 ils); Two views of the exhibit Passing Out (exh rev). 1/3:64-5 Sp81 (2 ils)
DAVIES, Esther exh rev. 1/4:68 F81
DAVIS, Auta Braganza *exh rev. 1/3:69 Sp81 (il)
DAVISON, Amy 1/2:18 W81 (4 ils; por); exh rev. 1/2:55,57 W81 (il); exh rev. 1/4:56,*61 F81 (il); exh rev. 2/2:45,*50 Sp82
DECORATION and Ornament, Architectural Irreplaceable Artifacts. 1/3:59-60 Sp81 (5 ils); See also: Metalwork in architecture
DEGEN, Pierre exh rev. 1/2:16 W81 (il)
deJONG, Beverly *exh rev. 1/3:70 Sp81 (2 ils)
De LARGE, Edward (lecturer): The sixth Rocky Mountain Metalsmithing Symposium; Summervail Workshop, Minturn, CO. 1/3:38, 39 Sp81
DELIUS, Sigrid exh rev. 1/4:59-60 F81 (2 ils)
DENMARK—Metalsmiths See also: Silverwork, Danish
de PATTA, Margaret *1/1:23 F80
DEREN, Edward exh rev. 1/2:64 W81
DEROE, Clancy Illus: "Mondrian" bow tie. 1/3:19 Sp81
DESIGN Editorial (criticism of American metalwork and jewelry design). 1/4:4 F81
DESIGN movements, German See also: Deutscher Werkbund; Art Nouveau
DEUTSCHER WERKBUND The Werkbund: history and ideology, 1907-1933, edited by L. Burckhardt (bk rev). 1/3:72 Sp81
DILLINGHAM, Rick exh rev. 1/4:57 F81
DINNEEN, Paula The criteria of collecting crafts 1/2:26-31 W81; Glenda Arentzen, Alan Revere (exh rev). 2/2:47-8 Sp82 (2 ils); Three schools in Boston. 2/2:37-8 Sp82 (6 ils)
DRAHOS, Dean exh rev. 2/1:50 W82 (il)
DRENDEL, Ted 2/2:39,40 Sp82 (il)
DRINKING Vessels See also: Ritual vessels
DUGGAN, Lynn A. exh rev. 2/2:45 Sp82
EBENDORF, Robert *1/1:32-3 F80 (il); exh rev. 1/2:60 W81; *exh rev. 1/3:67 Sp81 (3 ils); exh rev. 1/4:58 F81
EIKERMAN, Alma 1/1:22,23 F80 (il)
EIKERMAN, Alma—Influences. Komelia Hongja Okim. 1/2:60 W81
ELECTRONIC jewelry Leomat electronic jewelry/Leo Cahn and Mathys Van Manen. 2/1:16-18 W82 (8 ils); Fancy goods: Ralph Turner's collection of popular jewelry. 1/3:17 Sp81
ELECTRONICS—Exhibitions Robert Natalini: wearin' the emperor's old clothes Works Gallery, Philadelphia, PA. 1/1:39-41 F80 (5 ils)
ENGLES, Barbara exh rev. 1/3:63 Sp81
EVANS, James exh rev. 1/4:65 F81 (il)
EN RESILLE enamel Margret Craver: a vision for American metalsmithing. 2/1:8 W82 (il)
ENAMEL See also: Cloisonné; En resille; Plique-à-jour; Guilloche
ENAMEL—Esthetics Opinion. 1/2:65 W81
ENAMEL—Exhibitions The art of William Harper: Kennedy Galleries, New York City. 2/1:40-1 W82 (3 ils); Barbara Mail: Greenwood Gallery, Washington, D.C. Metals 1/2:54 W81 (2 ils; por); Enamels and plastics: jewelry and sculpture: Gallery of Contemporary Metalsmithing, Rochester, NY. 1/2:55 W81 (il); Enamels: into a new decade: Riverside Art Center and Museum, Riverside, CA. 1/4:67-8 F81 (3 ils); Enamels 50/80: Worcester Craft Center, Worcester, MA. 2/2:51-2 Sp82 (il); Flux, fusion, fireworks: Contemporary Crafts Gallery, Portland, OR. 1/2:64 W81 (il); Jamie Bennett-enamelworks and drawings. 1/1:57 F80 (2 ils); Martha Banyas: Greenwood Gallery, Washington, DC. 2/1:45 W82 (2 ils); Mary Ann Scherr/Sydney Jo Scherr: wearable artworks in metal, enamel: The Elements Gallery, New York City. 2/1:46,47 W82 (2 ils); Metal and enamel: a juried exhibition: Greenwood Gallery, Washington, DC. 1/4:64-5 F81 (il); Moth wings: recent works in enamel/Belle and Roger Kuhn: Greenwood Gallery, Washington, DC. 1/3:66 Sp81 (il); Off the body: metal and enamels exhibition: Hartmann Center Gallery, Bradley University, Peoria, IL. 1/2:59-60 W81 (il); Porcelain and enamels: Contemporary Artisan, San Francisco, CA. 2/1:50 W82 (2 ils); Scrap metal: New York City and environs (brief reviews of local exhibitions). 2/2:52-3 Sp82; Southeastern Contemporary metalsmiths: LeMoyne Art Foundation, Tallahassee, FL. 1/4:68-9 F81
ENAMEL Guild West—Exhibitions Enamels: into a new decade: Riverside Art Center and Museum, Riverside, CA. 1/4:67 F81
ENAMEL, Guilloche See: Guilloche enamels
EOSPODARCZYK, Christine illus: Paint brush brooch, 1978 1/3:19 Sp81
EQUIPMENT and tools See also: Rose engines; Lathes, ornamental
ERGMAN, Heidi illus: Metal sculpture. 1/2:44 W81
ETCHING—Techniques Alternative etching methods (technical paper describing the author's experiments with tray etching). 1/4:35-7 F81 (7 ils)
EWING, Susan exh rev. 1/1:59 F80
EXHIBITIONS See also: Specific subjects, e.g., Jewelry; Holloware; Student art; Sterling Silversmiths Guild
EXHIBITIONS American crafts '81. 2/2:45-6 Sp82 (il); Amy Davison and Gary Griffin: Greenwood Gallery, Washington, DC. 1/4:61 F81 (3 ils); Beth Potter Rizo-Patron: sculpture in mixed materials: Clifford Gallery, Pittsburgh Center for the Arts, Pittsburgh, PA. 1/4:55 F81 (3 ils); Contemporary metal: Yellowstone Art Center, Billings MT. 2/1:47-8 W82 (4 ils); Cutting edge: National Ornamental Metals Museum, Memphis, TN. 2/1:38-9 W82 (2 ils); Everyday metal. 1/1:53 F80 (3 ils); Fourth annual Philadelphia craft show: Memorial Hall, Philadelphia, PA. 1/3:61-2 Sp81 (il); Gene and Hiroko Pijanowski: Fred P. Giles Gallery, Eastern Kentucky University, Richmond. 2/2:48-9 Sp82 (3 ils); Introductions: Craft and Folk Art Museum, Los Angeles, CA. 1/4:56-7 F81 (4 ils); Komelia Hongja Okim: Montgomery College Art Gallery, Rockville, MD. 1/2:60-1 W81 (il); Made in LA: Craft and Folk Art Museum, Los Angeles, CA. 1/4:55-6 F81 (2 ils); Metal and enamel: a juried exhibition: Greenwood Gallery, Washington, DC. 1/4:64-5 F81 (2 ils); Metal invitational: Tower Fine Art Gallery, SUNY, Brockport, NY. 1/4:57-9 F81 (3 ils); Metal/non-metal: Synopsis Gallery, Winnetka, IL. 1/2:56-7 W81 (il); Metalsmith '81: Visual Arts Exhibition Gallery, University of Kansas, Lawrence. 2/2:44-5 Sp82 (il); Off the body: metal and enamels exhibition: Hartmann Center Gallery, Bradley University, Peoria, IL. 1/2:59-60 W81 (il); Robert Natalini Works Gallery, Philadelphia, PA. 1/1:39-41 F80 (5 ils); Scrap metal (brief reviews of New York City gallery exhibitions). 2/1:48-50 W82 (2 ils); 2/2:52-3 Sp82 (il); Secrets of a master craftsman, 1100-1981, Hammond Castle Museum, Gloucester, MA. 1/4:62-3 F81 (2 ils); SNAG European exhibit visits Helsinki (Museum of Applied Arts), Helsinki, Finland. 1/1:36-8 F80 (2 ils); The western edge: Brand Library Art Galleries, Glendale, CA. 1/2:58-9 W81 (il); Statements in metal/Harriete Estel Berman: Precious Objects Gallery, Los Gatos, CA. 1/4:63,64 F81 (il); Topographical constructivism/Curtis La Follette): Bannister Gallery, Rhode Island College, Providence, RI. 2/1:46-7 W82 (2 ils); William Neumann: metalwork and jewelry: Davis Art Gallery, University of Akron, Akron, OH. 1/4:61-2 F81 (il)
EXHIBITIONS, British Two views of the exhibit Passing Out: Goldsmiths' Hall, London, England. 1/3:64-5 Sp81 (2 ils); Loot: Goldsmiths' Hall, London, England. 1/3:65-6 Sp81 (2 ils)
EXHIBITIONS, Canadian Lois Etherington Betteridge: The Craft Gallery, Toronto, Ontario. 2/2:44 Sp82 (il)
EXHIBITIONS, Chinese The great bronze age of China: Kimbell Art Museum, Ft. Worth, TX. 2/1:41-4 W82 (3 ils)
EXHIBITIONS, Finnish Finland Designs: Craft and Folk Art Museum, Los Angeles, CA. 2/2:46 Sp82
FABERGÉ, Peter Carl *1/3:26-7 Sp81 (3 ils)
FABRIC as jewelry material See also: Ceconite
FACETING (gems and gemstones) *1/4:39-40 F81
FADDIS, George exh rev. 1/4:63 F81
FAIRBANKS, Jonathan The criteria of collecting crafts. 1/2:28, 29 W81
FARMER, Michelle The business of jewelry: marketing analysis of a retail jewelry shop. 1/3:53-8 Sp81
FARRELL, Thomas exh rev. 1/2:55, 64 W81; exh rev. 2/1:50 W82
FASHION Jewelry The business of jewelry: Ivy Ross. 1/2:32-5 W81 (10 ils; por)
FASHION jewelry—Exhibitions Fancy goods: Ralph Turner's collection of popular jewelry (traveling exhibition: Scotland). Excerpts from the catalog of the exhibition. 1/3:15-19 Sp81 (21 ils)
FENNIMORE, Donald L. Masterpiece in metal: the Kingston tureens: French silver designed by Juste Aurèle Meissonnier. 1/4:28-9 F81 (2 ils); (Curator of Metal/Winterthur Museum). 1/4:32-4 F81
FENSTER, Fred *1/1:26, 28 F80 (il)
FERREE, Jane exh rev. 2/2:45 Sp82
FERRINI, Vincent A metalsmith's guide to Boston 1/2:40-5 W81 (il)
FIKE, Philip *1/1:23,24 F80 (il); (lecturer): The sixth Rocky Mountain metalsmithing symposium; Summervail Workshop, Minturn, CO. 1/3:38, 39 Sp81 illus: Philip Fike at Summervail. 2/2:30 Sp82 (por)
FINLAND—Crafts See: Crafts, Finnish
FIRCH, Jan, collection—Exhibitions The toolmaker's art: 17th-19th century European tools from the collection of Jan Firch: Flint Institute of Arts, Flint, MI. 2/1:11-15 W82 (12 ils)
FISCH, Arline *1/1:28 F80 (il)
FIX, John *exh rev. 1/4:64 F81 (2 ils)
FLATWARE—History The knife, fork & spoon: a history. 1/4:30-4 F81 (14 ils, biblio); see also Knife, Fork, Spoon
FLECKENSTEIN, Daniel exh rev. 2/1:50 W82
FLEMING, Erik—Influence (Margret Craver): 2/1:7 W82
FLOWERS in metal Peter Carl Fabergé: imperial basket of lilies of the valley. 1/3:26-7 Sp81 (3 ils)
FLYNN, Pat exh rev. 1/2:63 W81; *exh rev. 1/3:68-9 Sp81 (il)
FLYNN, J. Stephen exh rev. 2/2:45 Sp82
FORBES Magazine collection Peter Carl Fabergé: imperial basket of lilies of the valley. 1/3:26-7 Sp81 (3 ils)
FORD, Thomas exh rev. 2/1:50 W82 (il)
FORKS illus. 1/4:30-4 F81

FOUND objects in art Robert Natalini: Works Gallery, Philadelphia, PA. 1/1:39-41 (5 ils)
FRANKEL, Mark Two views of the exhibit Passing Out (exh rev). 1/3:64-5 Sp81 (2 ils)
FREDENBURG, Scott exh rev. 1/4:60 F81 (il)
GAINSBURY, Peter Metalsmithing: for art and industry? 1/2:10-13 W81
GALLERIES Issues: establishing a craft gallery. 1/1:48-9 F80 (il) See also: specific names, e.g., Ten Arrow Gallery, Cambridge, MA
GALLERIES, Canadian See also: Prime Canadian Crafts, Toronto, Canada
GARDENER, Jayn exh rev. 1/4:63 F81 (il)
GARNER, Ted Sitting Crow exh rev. 2/1:44-5 W82 (2 ils)
GARNETS *2/2:15 Sp82
GARRISON, Elizabeth *2/2:22 Sp82 (4 ils; artist's statement); exh rev. 2/2:46 Sp82
GATES and fences The metalwork of Albert Paley. 1/4:42-7 F81 (10 ils; cov il)
GAUDEMACK, Christian illus: Three brooches. 2/1:23 W82
GAYNARD, Skip exh rev. 2/1:50 W82
GEMS and Gemstones Optical qualities of carved gemstones. 1/4:38-41 F81 (13 ils); basic tools and techniques. 2/1:19-22 W82 (14 ils); carving characteristics. 2/2:14-17 Sp82 (13 ils)
GENTILLE, Thomas exh rev. 1/2:62 W81
GETTY, Nilda exh rev. 1/2:60 W81
GILROY, Griselda Fancy Goods: Ralph Turner's collection of popular jewelry (traveling exh), excerpts from catalog, foreword by G. Gilroy. 1/3:15-19 Sp81
GIBSON-SEARS, Christina exh rev. 1/2:64 W81
GLASS-enamel crystals Margret Craver: a vision for American metalsmithing. 2/1:6-10 W82 (7 ils; cov il)
GLOTZBACH, Timothy Gene and Hiroko Pijanowski (exh rev). 2/2:48-9 Sp82 (3 ils)
GOEHRUNG, James illus: Salt cellar. 1/1:53 F80
GOLD alloys 1/2:48 W81
GOLD, Debra Lynn Metal/nonmetal (exh rev). 1/2:56-7 W81 (il); *exh rev. 2/2:50-1 Sp82 (il)
GOLDMAN, Gail M. Metal and enamel: a juried exhibition (exh rev). 1/4:64-5 F81 (il)
GOLDSMITHS, German Hermann Schafran: design as evolution and organization (inteview). 1/3:28-31 Sp81 (12 ils; 3 drwgs; por)
GOLDWORK, Iranian illus: Rhyton, gold, 5th century BC Achaemenian Period (from the collection of the Metropolitan museum of Art, New York City). 2/1:36 W82
GOLDWORK, Russian Peter Carl Fabergé: imperial basket of lilies of the valley. 1/3:26-7 Sp81 (3 ils)
GOOD, Michael exh rev. 1/4:65, 66 F81 (il); jt author: See: Jordan, Karen
GOSS, Gretchen illus: One hundred over another. 1/2:64 W81
GOUGH, Kathryn Regier exh. rev. 1/4:67 F81; exh rev. 2/1:50 W82; exh rev. 2/2:45 Sp82
GRAHAM, Ann Krohn 1/4:30, 34 F81 (il)
GRANNIS, Timothy *2/2:19 Sp82 (3 ils; artist's statement)
GREENE, Bob exh rev. 1/3:62 Sp81
GREER, Colin exh rev. 1/3:64-5 Sp81 (il)
GREENBERG, Meryl Statements in sterling/80: Sterling Silversmiths' Guild of America, Lever House, New York City (exh rev). 1/1:59 F80 (il); *exh rev. 1/3:69 Sp81 (il)
GRIFFIN, Gary S. (exh rev). 1/2:14-17 W81 (9 ils); (lecturer): The sixth Rocky Mountain Metalsmithing Symposium; Summervail Workshop, Minturn, CO. 1/3:38, 39 Sp81; *exh rev. 1/4:61 F81 (2 ils)
GRUNDLER, Ann Armschmuck: an international competition: (exh rev). 1/1:60 F80 (2 ils); Schmuck, geraetjewelry, objects (exh rev). 1/4:59-60 F81 (7 ils); Bernd Munsteiner (exh rev.) 2/1:51 W82 (6 ils); Sous: a contemporary German metalsmith. 2/2:42-3 Sp82 (6 ils; por)
GUILLOCHE enamels Rose engine and ornamental lathes (includes description of surface preparation for use with transparent enamels). 1/4:24-5 F81 (5 ils; biblio)
GULBENKIAN, Calouste, Foundation Museum, Lisbon, Portugal 1/1:6-13 F80 (10 ils)
GWALTNEY, Bonnie Illus: Marine series/2 mokume pins. 1/2:47, 48 W81
HALL, Joseph Breaking the ice with John Marshall (interview). 1/3:48-52 Sp81 (12 ils; back cover il; por); exh rev. 2/1:47 W82
HALL, Julie Master metalsmith: Richard Thomas (interview). 2/2:8-13 Sp82 (8 ils; por)
HAMERS, Sylvia (exh rev). 2/1:45 W82 (2 ils)
HAMLET, Susan exh rev. 2/2:45 Sp82
HAMMOND Castle Museum, Gloucester, MA—History 1/4:62 F81
HAMMOND, Idelle Illus: Pendant. 2/2:41 Sp82
HANDLER, Peter Moss Metal invitational (exh rev). 1/4:57-9 F81 (3 ils)
HANDY & Harmon Margret Craver: a vision for American metalsmithing. 2/1:7-8 (2 ils) W82
HANSEL, David exh rev. 1/3:66 Sp81
HANNIGAN, Jeffrey (exh rev). 1/1:39-41 F80 (5 ils)
HARLOW, Pamela exh rev. 1/4:68 F81
HARRIS, Wesley exh rev. 2/1:50 W82
HARPER, William Cloisonné: the art of cloisonné enameling and jewelry making by F. Liban and L. Mitchell (bk rev). 1/4:70-1 F81; illus: Brooch. 1/2:27 W81; exh rev. 1/4:68, 69 F81 (il); *exh rev. 2/1:40-1 W82 (3 ils)
HARVEY, Fred, collection White metal universe: Navajo silver from the Fred Harvey collection, Heard Museum, Phoenix, AZ. (bk rev). 2/2:55 Sp82
HASKINS, Rodgers exh rev. 1/1:59 F80
HEALTH Hazards Health hazards: Questions & answers (discusses breathing investment dust, ammonium sulfate and zinc fumes). 1/4:70 F81; (discusses dangers of titanium processes). 2/1:53 W82 (diagrs); (discusses fumes from soldering fluxes; SPAREX as an alternative to sulfuric acid). 2/2:54 Sp82
HELWIG, Harold B. exh rev. 1/2:59 W81 (il); illus: Helding held. 2/1:49 W82
HELZER, Richard exh rev. 1/2:56 W81; exh rev. 2/2:45 Sp82; *exh rev. 2/2:49-50 Sp82 (2 ils); (curator) exh rev. 2/1:47 W82
HEMING, Thomas illus: Hot water urn, 1777-79 (in the collection of the Cooper-Hewitt Museum) 1/2:38-9 W81 (2 ils)
HENDRICHS, Ahasherus illus: American silver spoon, c. 1680-1700. 1/4:33 F81
HENTZ, Christopher exh rev. 1/4:69 F81
HERBST, Gerhard Constantine exh rev. 2/1:50 W82 (il)
HERBST, Marion illus: Shower tube bracelet. 1/3:19 Sp81
HERMAN, Carol exh rev. 1/4:69 F81
HERON, Susanna illus: Acrylic bracelet. 1/3:19 Sp81
HESKETH, Diana exh rev. 1/3:65, 66 Sp81 (il)
HESS, Maria illus: Garden hose bracelet. 1/3:19 Sp81
HOLDER, Elisabeth exh rev. 1/4:59-60 F81 (2 ils)
HOLLINGSWORTH, Adele illus: Brooch. 2/1:24 W82
HOLLORAN, Ellen exh rev. 2/2:46 Sp82
HOLLOWARE—Exhibitions Douglas Steakley: new holloware and jewelry. 1/1:56 F80 (il); Georg Jensen Silversmith. 1/1:42-7 F80 (8 ils); Helen Shirk: jewelry and holloware. 1/1:58 F80 (il); Linda Weiss: jewelry and holloware. 1/3:62-3 Sp81 (2 ils); Pat Flynn: jewelry and holloware. 1/3:68-9 Sp81 (il); See also: Vases; Tureens; Ritual vessels
HOWE, VICTORIA Designing jewelry by J. Warwick (bk rev) 1/4:71 F81
HOLMSTRÖM, August (workmaster). 1/3:26-7 Sp81 (3 ils)
HOLTZAPFFEL lathe illus: Chest of tools for a Holtzapffel ornamental lathe; Ornamental lathe geometric chuck. 1/4:26-7 F81
HOPPEA-UNTRACHT, Saara exh rev. 2/2:46 Sp82
HOSKING, Helen exh rev. 1/2:55, 64 W81
HOVIUS, Dorothea exh rev. 2/2:46 Sp82
HOWELL, John and Merry Lee exh rev. 2/1:50 W82
HU, Mary Lee *1/1:32,33 F80 (il); *exh rev. 1/3:69 Sp81 (il)
HUGHES, Graham (director) Loot (exh rev). 1/3:65-6 Sp81
HUNT, Henry Optical qualities of carved gemstones. 1/4:38-41 F81 (13 ils); 2/1:19-22 W82 (14 ils); 2/2:14-17 Sp82 (13 ils)
HUNTER-STIEBEL, Penelope The criteria of collecting crafts. 1/2:28 W81
HURLEY, F. Jack The practical handbook of blacksmithing and metalworking by P. Blandford (bk rev) 1/4:71 F81
IINO, Ichiro illus: Brooch. 1/2:15 W81
INDIANS OF NORTH AMERICA—Exhibitions Confluences of tradition and change: 24 American Indian artists: The Museum of the Southwest, Midland, TX. 2/1:44-5 W82 (3 ils)
INDIANS OF NORTH AMERICA—Metalwork White metal universe: Navajo silver from the Fred Harvey collection (Heard Museum, Phoenix, AZ), (bk rev). 2/2:55 Sp82
INSECTS as design motif Leomat electronic jewelry/Leo Cahn and Mathys Van Manen. 2/1:16-18 W82 (8 ils)
IRONWORK The metalwork of Albert Paley. 1/4:42-7 F81 (10 il; cov il); illus: Kettle. 1/2:44 W81
IRONWORK—Exhibitions The art of the blacksmith: Gallery of Contemporary Metalsmithing, Rochester, NY. 1/4:60 F81 (2 ils)
JACKSON, Rob illus: Cricket cage. 2/2:33 Sp82
JAFFE, Rosemary illus: Chain mail garment 2/2:34 Sp82
JEFFRIES, Carol exh rev. 1/3:65 Sp81
JEMMOTT, Deborah Love illus: From way down under (neckpiece). 2/1:31 W82
JENSEN, Georg *(exh rev). 1/1:42-7 F80 (3 ils)
JENSEN, Marvin illus: Mokume bowl. 1/2:46 W81; exh rev. 1/4:59 F81
JENSEN, Soren Georg Georg Jensen Silversmith: a metalworking phenomenon: Renwick Gallery, Washington, DC. 1/1:43, 47 F80
JERRY, Michael illus: Cooking pot. 1/2:26 W81
JEWELERS Brent Kington 2/2:24-6 Sp81 (3 ils); The busines of jewelry: Ivy Ross. 1/2:32-5 W81 (10 ils; por); A decade of metalsmithing in the United States: 1970-1980. 1/1:22-33 F80 (22 ils; biblio); Getting intimate: the jewelry/art of Stephen Albair. 1/3:40-3 Sp81 (7 ils); Master metalsmith: Carlyle H. Smith. 1/3:10-14 Sp81 (8 ils; por); National Endowment for the Arts 1981 fellowship recipients in metalwork. 2/2:18-23 Sp82 (23 ils; artists' statements)
JEWELERS, German Sous: a contemporary German metalsmith. 2/2:42-3 Sp82 (6 ils; por)
JEWELRY See also: Bracelets; Fashion Jewelry; Necklaces
JEWELRY as a profession The business of jewelry: Ivy Ross. 1/2:32-5 W81 (10 ils; por)
JEWELRY as a profession The business of jewelry: marketing analysis of a retail jewelry shop (for jeweler-owner). 1/3:53-8 Sp81
JEWELRY as sculpture Getting intimate: the jewelry/art of Stephen Albair. 1/3:40-3 Sp82 (7 ils)
JEWELRY, British—Exhibitions Fancy goods: Ralph Turner's collection of popular jewelry (traveling exhibition). Excerpts from the catalog of the exhibition. 1/3:15-19 Sp81 (21 ils); Loot: Goldsmiths' Hall, London. 1/3:65-6 Sp81 (2 ils)
JEWELRY, Canadian—Exhibitions The medium is metal: The Ontario Crafts Council Gallery, Toronto, Canada. 1/4:65 F81 (3 ils); Metalmorphics: The Ontario Crafts Council Gallery, Toronto, Ontario. 1/3:69-71 Sp81 (6 ils)
JEWELRY—Collectors and collections See also: Harvey, Fred Collection; Turner, Ralph, collections
JEWELRY design Designing jewelry by J. Warwick (bk rev) 1/4:71 F81; Hermann Schafran: design as evolution and organization (interview). 1/3:28-31 Sp81 (12 ils; 3 drwgs); Metalsmithing: for art or industry. 1/2:10-13 W81; Opinion. 1/2:65 W81
JEWELRY, Dutch Leomat electronic jewelry/Leo Cahn and Mathys Van Manen. 2/1:16-18 W82 (8 ils)
JEWELRY—Equipment and tools See also: Rose engines; Lathes, ornamental
JEWELRY—Exhibitions American titanium: Artwear Gallery, New York City. 1/2:62-3 W81 (5 ils); Amy Davison solo exhibition: Eells Gallery at Blossom Music Center, Cuyahoga Falls, OH. 2/2:50 Sp82 (il); Architectonic works in metal (Gretchen Raber): Greenwood Gallery, Washington, DC. 1/3:67-8 Sp81 (3 ils); The art of William Harper: Kennedy Galleries, New York City. 2/1:40-1 W82 (3 ils); Auta Braganza Davis, Meryl Greenberg, Mary Lee Hu, Barbara Walter: Synopsis Gallery, Winnetka, IL. 1/3:69 Sp81 (4 ils); Barbara Mail: Greenwood Gallery, Washington, DC. 1/2:54 W81 (il; por); Collaborations: Robin Casady, Susan Kingsley, Judith Ubick: Precious Objects Gallery, Los Gatos, CA. 1/3:66 Sp81 (il); The current metalsmithing of Betty Helen Longhi: Creative Metalsmiths, Chapel Hill, NC. 1/4:66-7 F81 (il); Debra Lynn Gold: Illinois Arts Council Gallery, Chicago. 2/2:50-1 Sp82 (il); Douglas Steakley: new holloware and jewelry. 1/1:56 F80 (il); Enamels and plastics: jewelry and sculpture: Gallery of Contemporary Metalsmithing, Rochester, NY. 1/2:55 W81 (il); Fourth annual Philadelphia craft show: Memorial Hall, Philadelphia, PA. 1/3:61-2 Sp81 (il); Glenda Arentzen, Alan Revere: Gallery at Joel Bagnal, Goldsmith, Wellesley, MA. 2/2:47-8 Sp82 (2 ils); Helen Shirk-jewelry and holloware: Concepts Gallery, Carmel, CA. 1/1:58 F80 (il); Jamie Bennett-enamelworks and drawings: Fred P. Giles Gallery, Eastern Kentucky University, Richmond, KY. 1/1:57 F80 (2 ils); Jewelry mid-Pacific: Contemporary Art Center, Honolulu, HI. 1/3:62-3 Sp81 (il); Jill Slosberg, jewelry: Harcus Krakow Gallery, Boston, MA. 1/4:57 F81 (il); John Fix: jewelry: Tomlinson Craft Collection, Baltimore, MD. 1/4:64 F81 (2 ils); Komelia Hongja Okim: Montgomery College Art Gallery, Rockville, MD. 1/2:60-1 W81 (4 ils); Linda Weiss: jewelry and holloware: Precious Objects Gallery, Los Gatos, CA. 1/3:62-3 Sp81 (2 ils); Lynda Watson-Abbot: Precious Objects

Gallery, Los Gatos, CA. 2/2:46 Sp82 (il); Mary Ann Scherr/Sydney Jo Scherr: wearable artworks in metal, enamel: The Elements Gallery, New York City. 2/1:46,47 W82 (2 ils); Merry Renk, jeweler: California Crafts Museum, Palo Alto, CA. 1/4:63-4 F81 (il); Moth wings: recent works in enamel/ Belle and Roger Kuhn: Greenwood Gallery, Washington, DC. 1/3:66 Sp81 (il); Metal invitational: Tower Fine Art Gallery, SUNY, Brockport, NY. 1/4:57-9 F81; Natalie Paul: recent jewelry and wall-piece combinations: Precious Objects Gallery, Los Gatos, CA. 1/2:57 W81 (il); Opening exhibition of Main jewelers: Etienne Fine Jewelry, Camden, ME. 1/4:65 F81 (il); Pat Flynn: jewelry and holloware: Gallery of Contemporary Metalsmithing, Rochester, NY. 1/3:68-9 Sp81 (il); Porcelain and enamels: Contemporary Artisans, San Francisco, CA. 2/1:50 W82; Report from Vienna: International jewelry 1900-1980: Kunstlerhaus, Vienna, Austria. 1/2:14-17 W81 (8 ils); Richard Helzer: Synopsis Gallery, Winnetka, IL. 2/2:49-50 Sp82 (2 ils); Robert Ebendorf and Ivy Ross: collaborative exhibit: Greenwood Gallery, Washington, DC. 1/3:67 Sp81 (3 ils); Robin Quigley's contemporary jewelry: Helen Drutt Gallery, Philadelphia, PA. 2/1:38, 39-40 W82 (2 ils); Southeastern contemporary metalsmiths: LeMoyne Art Foundation, Tallahassee, FL. 1/4:68-9 F81 (2 ils); The western edge: Brand Library Art Galleries, Glendale, CA. 1/2:58-9 W81 (il)

JEWELRY, French Lalique. 1/1:6-13 F80 (10 ils); Lalique: seahorse brooch (from the Art Nouveau Collection of the Virginia Museum of Fine Arts, Richmond, VA. 2/1:26-7 W82 (2 ils; diags)

JEWELRY, German—Exhibitions Bernd Munsteiner: Contemporary Artisans, San Francisco, CA. 2/1:51 W82 (6 ils); Schmuck, gereat-jewelry, objects: Detmolder Schloss, Detmold, Germany. 1/4:59-60 F81 (7 ils)

JEWELRY industry Metalsmithing: for art or industry? 1/2:10-13 W81

JEWELRY—Marketing Opinion (defines fine, costume, and art jewelry and respective marketing problems). 2/2:4 Sp82; see also: Jewelry-Organizations and guilds

JEWELRY, Medieval illus: Animal-style fibula (collection of the Metropolitan Museum of Art, New York City). 2/1:34 W81

JEWELRY—Repair Jewelry repair: retipping prongs. 2/1:54 W82; shortening a mesh watch band. 2/2:54-5 Sp82 (diags)

JEWELRY Shops The business of jewelry: marketing analysis of a retail jewelry shop. 1/3:53-8 Sp81

JEWELRY—Study and Teaching Metalsmithing: for art or industry? 1/2:10-13 W81; Metalsmith summer programs 1981. 1/3:32-7 Sp81; Metalsmith summer programs 1982. 2/2:30-32 Sp82; On view (profiles of schools offering programs in metal and examples of students' work). 2/1:28-33 W82 (33 ils); 2/2:33-6 Sp82 (19 ils); Three schools in Boston (School of the Museum of Fine Arts, Program in Artisanry at Boston University, Massachusetts College of Art). 2/2:37-8 Sp82 (6 ils)

JEWELRY—techniques Beginning jewelry: a notebook for design and techniques by R. Armstrong (bk rev) 1/3:72 Sp81; Working with Ceconite (technical paper describing the process of using woven dacron fabric stretched over a skeletal frame to make bracelets). 1/3:44-7 Sp81 (4 ils; biblio)

JOHNSON, Richard exh rev. 1/2:64 W81

JORDAN, Karen Opening exhibition of Maine jewelers: Etienne Fine Jewelry (exh rev). 1/4:65 F81 (il); Opinion. 2/2:4 Sp82

KALLENBERGER, Klaus Cutting edge (exh rev). 2/1:38-9 W82 (2 ils); Sigurd Persson Smycken (bk rev) 2/2:55 Sp82

KATZ, Hallie The western edge (exh rev). 1/2:58-9 W81 (il)

KAUFMAN, Correen exh rev. 1/4:67 F81

KEEBLE, Leslie illus: Two brooches 2/1:24 W82

KEEFER, Jeanne exh rev. 1/2:58,59 W81 (il)

KEENS, David exh rev. 1/2:16,17,60 W81 (il); exh rev. 1/4:58 F81

KELLY, Candace exh rev. 1/4:63 F81

KERNER, Daniella exh rev. 1/4:59 F81

KIELMAN, Hero *1/2:6-9 W81 (2 ils; por; cov il)

KILLMASTER, John illus: Riddle of Philomela 1/2:64 W81

KINETIC art—Exhibitions Robert Natalini: Works Gallery, Philadelphia, PA. 1/1:39-41 F80 (5 ils)

KINGSLEY, Susan Introductions (exh rev). 1/4:56-7 F81 (4 ils); Made in LA (exh rev). 1/4:55-6 F81 (2 ils); exh rev. 1/2:58 W81; *exh rev. 1/3:66 Sp81 (il)

KINGSTON tureens See: Tureens

KINGTON, Brent *1/1:26 F80 (il); exh rev. 1/4:60,61 F81 (il); *2/2:20 Sp82 (3 ils; artist's statement); *2/2:24-6 Sp82 (8 ils; por)

KITCHEN Utensils—Exhibitions Everyday metal: National Ornamental Metal Museum, Memphis, TN. 1/1:53 F80 (3 ils)

KLINE, Naomi Secrets of a master craftsman: 1100-1981 (exh rev). 1/4:62-3 F81 (2 ils)

KLUGE, Janice Illus: Transition wall piece 2/2:35 Sp82

KNIPE, Mark American crafts '81. (exh rev). 2/2:45-6 Sp82 (il); SNAG new pro members. 1/2:19 W81 (6 ils; por)

KNIVES Illus: Victorian silverware designs (jelly knife); European steel knives 16-18th centuries; Spanish steel knife, 17th century. 1/4:31-3 F81

KNIVES—Exhibitions Cutting edge: National Ornamental Metals Museum, Memphis, TN. 2/1:38-9 W82 (2 ils)

KNOBEL, Esther illus: Safety pin brooch. 1/3:19 Sp81

KOPLOS, Janet Artists in Metal (Chicago, IL). 2/2:39-41 Sp82 (6 ils); Auta Braganza Davis, Meryl Greenberg, Mary Lee Hu, Barbara Walter (exh rev). 1/3:69 Sp81 (4 ils); Carol Kumata. 2/2:27-9 Sp82 (5 ils); Debra Lynn Gold (exh rev). 2/2:50-1 Sp82 (il); Richard Helzer (exh rev). 2/2:49-50 Sp82 (2 ils)

KOPPEL, Henning exh rev. 1/1:45, 47 F80 (il)

KORTZAU, Ole illus: Vase. 1/1:46 F80

KROLICK, Jeff exh rev. 1/4:60 F81 (il)

KROUT, Jonathan exh rev. 1/4:56 F81

KUHN, Belle and Roger *exh rev. 1/3:66 Sp81 (il); *exh rev. 2/1:50 W82

KUHNEN, Johannes exh rev. 1/4:59-60 F81 (2 ils)

KUMATA, Carol exh rev. 1/4:57 F81; cov il, 2/2 Sp82; *2/2:23 Sp82 (3 ils; artist's statement); *2/2:27-9 Sp82 (5 ils)

KUNZLI, Otto exh rev. 1/2:16,17 W81

LaFOLLETTE, Curtis *exh rev. 2/1:46-7 W82 (2 ils)

LALIQUE, René *1/1:6-13 F80 (10 ils); *1/4:40 F81; 2/1:26-7 W82 (2 ils; diags)

LANNAN Foundation collection Breaking the ice with John Marshall. 1/3:48-52 Sp81 (12 ils; back cov il; por)

LAPIDARY See also: Gems and Gemstones

LAPIDARY, German—Exhibitions Bernd Munsteiner: Contemporary Artisans, San Francisco, CA. 2/1:51 W82 (6 ils)

LARSON, Gail exh rev. 2/2:46 Sp82

LARSON, Orland—Influence 2/1:24 W82

LASATER, Linda exh rev. 1/2:58, 59 W81 (il)

LASKIN, Rebekah illus: Four pins 2/1:33 W82

LATHES See also: Rose Engines

LATHES, ornamental Rose engine and ornamental lathes (technical paper discussing their development and specialized use by jewelers with emphasis on surface decoration). 1/4:22-7 F81 (9 ils; diags; biblio)

LEAGUE of New Hampshire Craftsmen—Exhibitions American crafts '81. 2/2:45-6 Sp82 (il)

LECHTZIN, Stanley *1/1:25-6 F80 (2 ils); exh rev. 1/4:59 F81

LECHTZIN, Stanley—Influence (Albert Paley). 1/4:44 F81

LEGAL Aspects See also: Consignment practices; Contracts

LEMOINE, Linda exh rev. 2/1:50 W82

LEOMAT See: Cahn, Leo

LEPASAR, ÜLLE exh rev. 1/2:58 W81 (il)

LEUPP, Leslie exh rev. 1/2:59, 60 W81 (il); exh rev. 2/2:45 Sp82

LEVEQUE, Julie illus: Wall piece 2/1:33 W82

LEVIEN, Robin illus: "Henry Moore" earrings. 1/3:19 Sp81

LEVIN, Bonnie 2/2:40 Sp82

LEVINE, Mark Working with ceconite (technical paper describing the process of using woven dacron fabric stretched over a skeletal frame to make bracelets). 1/3:44-7 Sp81 (4 ils; biblio)

LEVY, Alison exh rev. 1/2:62 W81

LEWIS, Keith Hermann Schafran: design as evolution and organization (interview). 1/3:28-31 Sp81 (12 ils; 3 drwgs; por)

LEWIS, Marcia Beginning jewelry: a notebook for design and techniques by R. Armstrong (bk rev) 1/3:72 Sp81; White metal universe: Navajo silver from the Fred Harvey collection by E. Jernigan (bk rev) 2/2:55 Sp82; exh rev. 1/4:55,56 F81 (il)

LEWTON-BRIAN, Charles Illus: 2/1:24 W82

LIBATION vessels See: Ritual vessels

LICKA, C.E. Robin Quigley's contemporary jewelry (exh rev). 2/1:38, 39-40 W82

LIPPE, Micki exh rev. 1/3:62 Sp81

LIU, Robert K. Collaborations: Robin Casady, Susan Kingsley, Judith Ubick (exh rev). 1/3:66 Sp81 (il)

LONDON A metalsmith's guide to London. 1/1:50-2 F80

LONG, Randy exh rev. 2/2:45 Sp82

LONGHI, Betty Helen *exh rev. 1/4:64,66-7 F81 (il)

LOS ANGELES—Artists—Exhibitions Made in LA: Craft and Folk Art Museum: Los Angeles, CA. 1/4:55-6 F81 (2 ils)

LOYD, Jan Brooks illus: Spatula. 1/1:53 F80; exh rev. 1/4:69 F81

MACSAI, Aaron *2/2:39-41 Sp82 (il)

MADDOX, Jan Barbara Mail (exh rev). 1/2:54 W81 (il; por)

MAGDANZ, Andrew exh rev. 1/4:57 F81

MAGGIO, Pat Getting intimate: the jewelry/art of Stephen Albair. 1/3:40-3 Sp81 (7 ils)

MAIL, Barbara *exh rev. 1/2:54 W81 (2 ils; por); exh rev. 1/2:55 W81

MANN, Thomas exh rev. 1/3:62 Sp81

MARKETING Pricing and promotion: a guide for craftspeople by E. McGuire and L. Moran (bk rev) 1/5:71 F81

MARKUSEN, Tom Illus: Candleholders. 1/2:31 W81

MARQUIS, Richard exh rev. 1/4:56 F81

MARSHALL, John *1/3:48-52 Sp81 (12 ils; bk cov il; por)

MARTIN, Paul *exh rev. 1/3:18 Sp81 (il)

MASSACHUSETTS College of Art, Boston Three schools in Boston. 2/2:37-8 Sp82 (2 ils)

MASTBOOM, Harriet illus: Framed postcard of canal in Amsterdam with detachable boat. 1/3:19 Sp81

MATABI, Congo (Peter Chamberlain) exh rev. 1/2:60 W81

MATTAR, Wilhelm illus: Brooch. 1/2:15 W81

MATTHEWS, Glenice Lesley Metalsmith '81 (exh rev). 2/2:44-5 Sp82 (il)

MATZDORF, Kurt exh rev. 1/2:59-60 W81 (il); *1/4:16-21 F81 (7 ils; por)

MATZDORF, Kurt—Influence Gretchen Raber. 1/3:67 SP81

MAWDSLEY, Richard *1/1:31 F80 (il)

McCAIG, Judy exh rev. 1/3:65 Sp81

McCALL, Robert exh rev. 2/1:47, 48 W82 (il); exh rev. 2/2:45 Sp82

McCLELLAND, Thomas illus: 1/2:41 W81

McCLEVE, Michael exh rev. 2/1:44-5 W82 (il)

McCREARY, Karen exh rev. 1/2:58 W81

McCREIGHT, Tim Topographical constructivism/Curtis LaFollette (exh rev). 2/1:46-7 W82 (2 ils)

McCULLOUGH, Joseph William Neumann metalwork and jewelry (exh rev). 1/4:61-2 F81 (il)

MacDONALD, David illus: Moon images; Honey comb (neckpieces) 2/1:25 W82

McFADDEN, David Revere Hot water urn, 1777-78, Thomas Heming (in the collection of the Cooper-Hewitt Museum) 1/2:38-9 W81 (2 ils)

McGOWAN, Mary Straver exh rev. 2/2:46 Sp82

McGRAW, Wendy exh rev. 2/2:45 Sp82

MacNEIL, Linda illus: Necklace 1/2:31 W81

MEISSONNIER, Juste Aurèle (1695-1750) *1/4:28-9 F81 (2 ils)

MENDEZ, Marg illus: Table piece. 2/1:30 W82

MERCHANT, Joselyn 2/2:39,41 Sp82 (il)

METALSMITHING—techniques Metalworking by P.Scott (bk rev) 1/4:70 F81; see also: Etching-techniques

METALSMITHS A decade of metalsmithing in the United States: 1970-1980. 1/1:22-33 F80 (22 ils; biblio); Breaking the ice with John Marshall (interview). 1/3:48-52 Sp81 (12 ils; bk cov il; por); Brent Kington. 2/2:24-6 Sp82 (8 ils; por); Carol Kumata. 2/2:27-9 Sp82 (5 ils); Kurt Matzdorf. 1/4:16-21 F81 (7 ils; por); Margret Craver: a vision for American metalsmithing. 2/1:6-10 W82 (12 ils; artist's statement); Master metalsmith: Richard Thomas (interview). 2/2:8-13 Sp82 (8 ils; por); The metalwork of Albert Paley. 1/4:42-7 F81 (10 ils; cov il); National Endowment for the Arts 1981 fellowship recipients in metalwork. 2/2:18-23 Sp82 (23 ils; artists' statements)

METALSMITHS, Canadian Master metalsmith: Hero Kielman. 1/2:6-9 W81 (2 ils; por; cov il)

METALSMITHS, German Sous: a contemporary German metalsmith. 2/2:42-3 Sp82 (6 ils; por)

METALWORK See also: Flatware; Ironwork; Holloware

METALWORK, Greek See also: Ritual vessels

METALWORK in architecture Kurt Matzdorf. 1/4:16-21 F81 (4 ils); see also: Gates and fences

METALWORK, Iranian illus: Ewer, brass, engraved and inlaid with silver c. 1250 (from the collection of the Metropolitan Museum of Art, New York City). 2/1:36 W82

METALWORK—Salvage firms Irreplaceable Artifacts. 1/3:59-60 Sp81 (5 ils)

METALWORK—Photography techniques See: Photography

METCALF, Bruce Amy Davison solo exhibition (exh rev). 2/2:50 Sp82 (il); Crafts: second-class citizens? 1/1:14-21 F80 (bibiio); Jill Slosberg, jewelry (exh rev). 1/4:57 F81 (il); Kurt Matzdorf. 1/4:16-21 F81 (7 ils; por); exh rev. 1/4:56, 57 F81 (il)

METROPOLITAN Museum of Art, New York City—Collections The criteria of collecting crafts. 1/2:26-28 W81 (3 ils); A metslsmith's guide to the Met: New York City's ultimate museum. 2/1:34-7 W82 (4 ils; floor plans)
METTE, Alan exh rev. 1/2:64 W81
MEYER, C. James The current metalsmithing of Betty Helen Longhi (exh rev). 1/4:66-7 F81 (il); René Lalique: seahorse brooch (in the Art Nouveau Collection of the Virginia Museum of Fine Arts, Richmond, VA. 2/1:26-7 W82 (2 ils; diags)
MICHAELS, Thomas exh rev. 2/2:45 Sp82
MIKLOS, Coffee exh rev. 2/1:47 W82 (il); illus: Room with a view. 2/2:34 Sp82
MILLER, Ed exh rev. 1/3:62 Sp81
MIRGUET, Elizabeth illus: Untitled bowl. 2/1:28 W82
MIYAZAKI, Tsutomu illus: Ben series. 2/1:29 W82
MOEHL, Karl Off the body: metal and enamels exhibition (exh rev). 1/2:59-60 W81 (il)
MOHL-JANSEN, Kristan illus: 1/1:45 F80
MOKUME-GANE—Exhibitions Gene and Hiroko Pijanowski: Fred P. Giles Gallery, Eastern Kentucky University, Richmond. 2/2:48-9 Sp82 (3 ils)
MOKUME-GANE—techniques Studio mokume (technical paper; includes a section on the satsuo ando pouring method). 1/2:46-51 W81 (table; biblio)
MONTANA State University, Bozeman On view (profile of metal program and examples of students' work). 2/2:33-6 Sp82 (5 ils)
MONTGOMERY, Nena Statements in metal/Harriete Estel Berman (exh rev). 1/4:63,64 F81 (il)
MONTROSE, Alan jt. author See: Farmer, Michelle
MORRIS, Deborah illus: Fan. 2/1:28 W82
MORRI, Irene exh rev. 2/2:45 Sp82
MORRIS, Robert exh rev. 1/2:62 W81
MORRIS, Roger Lynda Watson-Abbott (exh rev). 2/2:46 Sp82 (il)
MOTY, Eleanor *1/1:30, 32 F80 (il)
MOUGHEIMER, Linda exh. rev. 1/2:55 W81
MUEHLING, Ted exh rev. 1/2:62, 63 W81 (2 ils)
MULLER, Friedrich illus: Ring. 1/2:15 W81
MULLNER, Gayle illus: You say it's your birthday 2/2:35 Sp82
MUNSTEINER, Bernd *exh rev. 2/1:51 W82 (6 ils)
MUSEUM OF FINE ARTS, Boston, MA A metalsmith's guide to Boston. 1/2:40-5 W81 (il)
MUSEUM OF FINE ARTS, Boston, MA—Collections The criteria of collecting crafts. 1/2:26-30 W81 (3 ils)
MUSEUM OF FINE ARTS, Boston, School Three schools in Boston. 2/2:37-8 Sp82 (2 ils)
MUSEUMS See also: specific institutions e.g., Museum of Fine Arts, Boston, MA
MUSICAL instruments—Exhibitions Robert Natalini. 1/1:39-41 F80 (il)
MYERS, Pam illus: Wall piece. 2/1:30 W82
NATALINI, Robert *exh rev. 1/1:39-41 F80 (5 ils)
NATHAN, Iris illus: Looking back. 2/2:35 Sp82
NATIONAL Endowment for the Arts National Endowment for the Arts 1981 fellowship recipients in metalwork. 2/2:18-23 Sp82 (23 ils; artists' statements)
NECKLACES, Arabian illus: Necklace (Hijab), silver, 20th century. 1/1:61 F80
NELSON, Sarah illus: Stars and stripes landscape pin. 2/2:35 Sp82
NEMCHOCK, Gary Master metalsmith: Carlyle H. Smith. 1/3:10-14 Sp81 (8 ils; por)
NEUMANN, William *exh rev. 1/4:61-2 F81 (il)
NEW YORK CITY—Museums See also: Cooper-Hewitt Museum; Metropolitan Museum of Art
NIELSEN, Harald—Influence (Georg Jensen) 1/1:46 F80;
NILL, Suzanne exh rev. 1/3:61 Sp81 (il)
NIEUWENGORG, Frans van illus: Necklace. 1/3:19 Sp81
NOE, Todd illus: Windmill blacksmith; Container Two. 2/1:32 W82
NOFFKE, Gary exh rev. 1/1:53 F80 (il)
NOLAND, Susan 1/4:33, 34 F81 (il)
NORTON, Deborah The artist-gallery partnership: a practical guide to consignment by S. Mellon and T. Crawford (bk rev) 1/4:71 F81
NURMESNIENI, Antti exh rev. 2/2:46 Sp82
OKIM, Komelia Hongja *exh rev. 1/2:60-1 W81 (4 ils)
OLIJNYK, MIchael exh rev. 1/4:56, 57 F81 (il)
OPPECKER, Robert illus: Raised vessel. 2/1:32 W82
ORGANIZATIONS See also: American Craft Council; Artists in Metal, Chicago, IL; Society of North American Goldsmiths
ORNAMENTAL lathes See: Lathes, ornamental
O'SHAUGHNESSY, Peter illus: Wall pot rack. 1/1:53 F80
OTTERWAY, Sherry *exh rev. 1/3:70, 71 Sp81 (2 ils)
OUDEMANS, Melanie illus: Set of peg brooches. 1/3:19 Sp81
OWENS-STONE, Anne illus: Facade series 2 brooch. 2/1:31 W82; exh rev. 2/1:50 W82
PALEY, Albert *1/1:29 F80; *1/4:42-7 F81 (10 ils; cov il); exh rev. 1/4:60 F81
PALUSKY, Beverly exh rev. 1/2:55 W81 (il)
PARDOE, Cynthia exh rev. 1/4:68 F81
PARRIOTT, Charles exh rev. 1/4:57 F81
PAUL, Natalie *exh rev. 1/2:57 W81 (il)
PEACOCK, Rob illus: Neckpiece. 2/2:36 Sp82
PEARLS—Exhibitions Scrap metal: New York City and environs (Ninth Annual International Pearl Design Contest winners program). 2/2:53 Sp82 (il)
PEARSON, Katherine The knife, fork & spoon: a history. 1/4:30-4 F81 (14 ils; biblio)
PEARSON, Ronald Hayes *1/1:26,29 F80 (il); 1/4:34 F81; exh rev. 1/4:65 F81
PECHE, Dagobert illus: Jewel box, Austria, silver gilt c. 1920 (from the collection of the Metropolitan Museum of Art, New York City). 2/1:36 W81
PERIDOT *2/2:15 Sp82
PERRET, Etienne, jt author See: Jordan, Karen; exh rev. 1/4:65,66 F81 (2 ils)
PERSSON, Sigurd Sigurd Persson Smycken (bk rev) 2/2:55 Sp82
PEWTER Pat Flynn: jewelry and holloware (exh rev). 1/3:68-9 Sp81 (il)
PHIALAI See: Ritual vessels—antiquities
PHILADELPHIA COLLEGE OF ART On view (profile of metals program and examples of students' work). 2/1:32 W82
PHILOSOPHY Crafts: second-class citizens? 1/1:14-21 F80; What is craft, what is art? 1/3:20-25 Sp81 (il)
PHINNEY, Hilary exh rev. 1/2:56 W81
PHOTOGRAPHY Photography for metalsmiths: what's wrong with this picture? 1/4:48-54 F81 (11 ils; diag; appendix)
PICKENS, Frances exh rev. 1/3:63 Sp81 (il)
PIJANOWSKI, Hiroko Sato illus. (cov). 1/1 F80
PIJANOWSKI, Hiroko Sato and Eugene *1/1:30,31 F80 (2 ils); *exh rev. 2/2:48-9 Sp82 (3 ils)
PLACE, Jennifer Issues: establishing a craft gallery. 1/1:48-9 F80 (3 ils); Lois Etherington Betteridge (exh rev). 2/2:44 Sp82 (il); The medium is metal (exh rev). 1/4:65 F81 (3 ils); Metalmorphics (exh rev). 1/3:69-71 Sp81 (6 ils)
PLASTICS—Exhibitions Enamels and plastics: jewelry and sculpture: Gallery of Contemporary Metalsmithing, Rochester, NY. 1/2:55 W81 (il)
PLIQUE-à-jour enamel René Lalique: seahorse brooch. 2/1:26-7 W82
POLSTER, Joanne American Craft Council Library: information center and reference service for craftsmen. 2/1:52 W82 (il); The Werkbund: history and ideology, 1907-1933, edited by L. Burckhardt (bk rev) 1/3:72 Sp81
POPENOE, Laura Porcelain and enamels (exh rev). 2/1:50 W82 (2 ils); exh rev. 1/2:64 W81
POPICK, Lyn 2/2:40 Sp82
POWELL, Craig illus: Arnon series. 2/1:30 W82
PRICING Pricing and promotion: a guide for craftspeople by E. McGuire and L. Moran (bk rev) 1/4:71 F81
PRILLAMAN, Richard (lecturer): The sixth Rocky Mountain metalsmithing symposium; Summervail Workshop, Minturn, CO. 1/3:38,39 Sp81
PRIME Canadian Crafts, Toronto Issues: establishing a craft gallery. 1/1:48-9 F80 (3 ils)
PRIP, John *1/1:24 F80 (il)
PROGRAM IN ARTISANRY See: Boston University, Program in Artisanry
PRONGS—Repair Jewelry repair: retipping prongs. 2/1:54 W82
PULS, Lucy Ann exh rev. 1/4:58 F81 (il)
QUARTZ *2/2:16 Sp82
QUICK, Jonathan illus: Goldfish cup. 2/1:33 W82
QUIGLEY, Robin exh rev. 1/2:16,17 W81 (il); *exh rev. 2/1:39-40 W82 (4 ils)
RAACKE, Norbert, Jr. Peter Carl Fabergé: imperial basket of lilies of the valley. 1/3:26-7 Sp81 (3 ils)
RABER, Gretchen Amy Davison and Gary Griffin (exh rev). 1/4:61 F81 (3 ils); Georg Jensen Silversmithy (exh rev). 1/1:42-7 F80 (8 ils); Robert Ebendorf and Ivy Ross (exh rev). 1/3:67 Sp81 (3 ils); *exh rev. 1/3:67-8 Sp81 (3 ils)
RACINE, Charles illus: Container. 2/1:28 W82
RADFORD, Charles exh rev. 1/1:59 F80
RAHS, Wolfgang exh rev. 1/2:16 W81 (il)
RAJALIN, Borje illus: Necklace. 2/2:46 Sp82
RALEIGH, Henry P. What is craft, what is art? 1/3:20-5 Sp81 (il)
REIBEN, Ellen exh rev. 1/2:55 W81
REILING, Reinhold—Influence (Albert Paley). 1/4:44 F81
RELIGIOUS APPOINTMENTS Master metalsmiths: Richard Thomas (interview). 2/2:8-13 Sp82 (8 ils; por); Kurt Matzdorf. 1/4:16-21 F81 (7 ils; por)
RENK, Merry *exh rev. 1/4:63-4 F81 (il)
REVERE, Alan Linda Weiss: jewelry and holloware (exh rev). 1/3:62-3 Sp81 (2 ils); exh rev. 2/2:47-8 Sp82 (il)
REVERE, Paul, II 1/2:40-2 W81 (2 ils)
REYNOLDS, John exh rev. 1/2:64 W81
REZAC, Susan illus: Brooch. 2/1:28 W82
RHODE ISLAND SCHOOL OF DESIGN On View (profile of metals program and examples of students' work). 2/1:28 W82
RICHARDS, David Lee illus: Bank/mokume-gane. 2/1:31 W82
RICKARD, Trisha illus: Reversible pin. 2/2:33 Sp82
RIETH, Carol exh rev. 1/4:68 F81 (2 ils)
RITCHIE, Pamela illus: Three brooches with feminist themes. 2/1:25 W82
RITUAL vessels—Antiquities The phiale, a Greek libation vessel. 1/4:10-15 F81 (10 ils)
RIZO-PATRON, Beth Potter *exh rev. 1/4:55 F81 (3 ils); exh rev. 2/2:45 Sp82
ROBINSON, Fran *exh rev. 1/3:18 Sp81 (il)
ROBINSON, Peggie 2/2:40 Sp82
ROCKY MOUNTAIN Metalsmithing Symposium The sixth Rocky Mountain metalsmithing symposium; Summervail Workshop, Minturn, CO. 1/3:38-9 Sp81 (5 ils; por)
ROHDE, Johan—Influence (Georg Jensen) 1/1:46 F80;
ROSE engines Rose engine and ornamental lathes (technical paper discussing their development and specialized use by jewelers with emphasis on surface decoration). 1/4:22-7 F81 (4 ils; diag; biblio)
ROSE, M.B. Pricing and promotion: a guide for craftspeople by E. McGuire and L. Moran (bk rev) 1/4:71 F81
ROSENTHAL, Shirley exh rev. 2/2:52 Sp82
ROSS, Ivy Pat Flynn: and holloware (exh rev). 1/3:68-9 Sp81 (il); (lecturer): The sixth Rocky Mountain Metalsmithing Symposium; Summervail Workshop, Minturn, CO. 1/3:39 Sp81; *1/2:32-5 W81 (10 ils; por); exh rev. 1/2:62,63 W81 (2 ils); *exh rev. 1/3:67 Sp81 (2 ils)
ROSS, Lynda illus: Fish knife. 2/1:38 W82; exh rev. 2/1:48 W82 (il)
ROTHHOLZ, Stephen illus: Barbed wire bracelet. 1/3:19 Sp81
ROUZIER, Florence Beth Potter Rizo-Patron: sculpture in mixed materials (exh rev). 1/4:55 F81 (3 ils)
ROWE, Michael exh rev. 1/3:65 Sp81
RUBENSTEIN, Betty Rogers Southeastern contemporary metalsmiths (exh rev). 1/4:68-9 F81 (2 ils)
RUSSELL, Eric Fourth annual Philadelphia craft show (exh rev). 1/3:61-2 Sp81 (il)
SACKS, Star Miller Margret Craver: a vision for American metalsmithing. 2/1:6-10 W82 (12 ils; artist's statement)
SAN DIEGO STATE UNIVERSITY On view (profile of metals program and examples of students' work). 2/1:31 W82
SANDERSON, Robert illus: Silver, tankard c. 1637-1710. 1/2:42 W81
SANFORD, Claire illus: Brush series, pins. 2/1:29 W82
SANT, Louise exh rev. 1/3:65 Sp81
SASSER, Elizabeth Skidmore Confluences of traditions and change: 24 American Indian artists (exh rev). 2/1:44-5 W82 (3 ils); The great bronze age of China (exh rev). 2/1:41-4 W82 (3 ils); Robert Bruno: a sculptor at home with his work. 1/2:23-5 W81 (2 ils; por)
SATSUO ANDO pouring method 1/2:51 W81
SATTERFIELD, Barbara exh rev. 1/2:55 W81 (il)
SAUNDERS, Gayle illus: Neckpiece. 2/2:53 Sp82
SCHAFRAN, Hermann *1/3:28-31 Sp81 (12 ils; 3 drwgs; por)
SCHERR, Mary Ann *1/1:29 F80 (il); illus: Bracelet with rotating discs. 1/2:26 W81; exh rev. 1/2:62 W81; *exh rev. 2/1:46,47 W82 (il)
SCHERR, Sydney Jo *exh rev. 2/1:46,47 W82 (il)
SCHMIDT, Giselle Cook exh rev. 1/4:68 F81
SCHRODINGER, Erwin Optical qualities of carved gemstones. 1/4:38-9 F81
SCHRUT, Sherry exh rev. 1/4:68 F81
SCHULZE, Herbert exh rev. 1/4:59-60 F81 (il)
SCHWARCZ, June exh rev. 2/1:50 W82; exh rev. 2/2:52 Sp82
SCHWARTZ, Joel A. illus: cheese cutter. 2/1:38 W82
SCHWARZINGER, Veronika illus: Brooch 1/2:15 W81
SCHWED, Antonia Opinion: (discusses technical perfection versus form, content, imagination and feeling). 1/2:65 W81; The art of William Harper (exh rev). 2/1:40-1 W82 (3 ils); Scrap metal (exh rev). 2/2:52-3 Sp82 (2 ils)

SCULPTURE Breaking the ice with John Marshall (interview). 1/3:48-52 Sp81 (12 ils; bk cov il; por)
SCULPTURE, Kinetic Brent Kington. 2/2:24-6 Sp82 (2 ils)
SCULPTURE—techniques Direct metal sculpture by T. Faulkner (bk rev). 1/4:70 F81
SEAHORSES as design motif René Lalique: seahorse brooch (in the Art Nouveau Collection of the Virginia Museum of Fine Arts, Richmond, VA). 2/1:26-7 W82 (2 ils; diags)
SEAVEY, James exh rev. 1/4:62-3 F81 (il)
SEEGERS, Laurence exh rev. 1/3:62 Sp81
SEPPÄ, Heikki *1/1:26,27 F80 (il); Opinion (discusses the "rotation form syndrome"). 1/3:8 Sp81
SERIZAWA, Nobuko illus: Necklace. 2/2:52 Sp82 (il)
SEVO-HOFFMAN, Mary Finland designs (exh rev). 2/2:46-7 Sp82 (2 ils)
SEXTONE, Richard exh rev. 2/2:12 Sp82
SHAKUDO *1/2:48 W81
SHAW-SUTTON, Carol exh rev. 1/4:56 F81
SHIBUICHI alloys *1/2:46-48 W81
SHIRK, Helen *exh rev. 1/1:58 F80 (il); (lecturer): The sixth Rocky Mountain Metalsmithing Symposium; Summervail Workshop; Minturn, CO. 1/3:38 Sp81; exh rev. 1/4:59 F81
SILVER alloys See also: Shibuichi alloys
SILVER, Ronna exh rev. 1/2:56 W81 (il)
SILVERSMITHING—techniques Silversmithing by F. Loyen (bk rev) 1/4:70 F81
SILVERWORK—Exhibitions Statements in sterling/80: Sterling Silversmiths Guild of America. 1/1:59 F80 (il); Statements in sterling/81 (Sterling Silversmiths Guild of America competition): Nelson Gallery/Atkins Museum, Kansas City, MO. 2/1:50 W82 (il)
SILVERWORK illus: Teakettle, American, turned silver, wood finial c. 1700-25. 1/2:45 W81; see also: Flatware
SILVERWORK, British Hot water urn, 1777-78: Thomas Heming (in the collection of the Cooper-Hewitt Museum). 1/2:38-9 W81 (2 ils)
SILVERWORK, British—Exhibitions Loot: Goldsmiths' Hall, London. 1/3:65-6 Sp81 (2 ils); Two views of the exhibit Passing Out: Goldsmiths' Hall, London. 1/3:64-5 Sp81 (2 ils)
SILVERWORK, Danish—Exhibitions Georg Jensen Silversmithy: Renwick Gallery, Washington, DC. 1/1:42-7 F80 (8 ils)
SILVERWORK, French Masterpiece in metal: the Kingston tureens: French silver designed by Juste Aurèle Meissonnier. 1/4:28-9 F81 (2 ils)
SILVERMAN, Sivan illus: Puzzle piece 2 (belt buckle). 2/2:36 Sp82
SIMMONS, Peggy exh rev. 1/4:69 F81
SKOOGFORS, Olaf *1/1:22, 23 F80
SLATE as material Pat Flynn: jewelry and holloware: (exh rev). 1/3:68-9 Sp81
SLOSBERG, Jill *exh rev. 1/4:57 F81(il)
SMITH, Carlyle H. *1/3:10-14 Sp81 (8 ils; por)
SMITH, Wendy illus: Hollow bracelets. 2/1:28 W82
SOBIESZEK, Robert A. The metalwork of Albert Paley. 1/4:42-7 F81 (10 ils; cov il)
SOCIETY OF NORTH AMERICAN GOLDSMITHS New pro members: Amy Davison, Mark Knipe, Ronald Wyancko, Nadene R. Wegner, Kay Y. Yee. 1/2:18-22 W81 (il; pors); Readers survey results. 1/1:62-3 F80; SNAG European exhibit visits Helsinki (Museum of Applied Arts, Helsinki, Finland). 1/1:36-8 F80 (2 ils)
SOELLNER, Walter Douglas Steakley: new holloware and jewelry (exh rev). 1/1:56 F80 (il)
SOLBERG, Ramona Flux, fusion, fireworks (exh rev). 1/2:64 W81 (il)
SOUS, Albert *2/2:42-3 Sp82 (6 ils; por)
SPINNING (metal) See: Turning
SPOONS illus: Spanish steel spoon, 17th century; British silver traveling spoon; Dutch spoon fork combination. 1/4:30-4 F81
STAATES, Marea illus: Pan scrubber bracelet. 1/3:19 Sp81
STANDISH, Dana B. illus: Brooch 2/1:33 W82
STATE UNIVERSITY OF NEW YORK, COLLEGE AT NEW PALTZ On view (profile of the metals program and examples of students' work). 2/1:33 W82
STANTIONIS, Lin exh rev. 2/1:50 W82
STEAKLEY, Douglas (lecturer): The sixth Rocky Mountain metalsmithing symposium; Summervail Workshop, Minturn, CO. 1/3:39 Sp81; *exh rev. 1/1:56 F80 (il); 2/2:45 Sp82
STEIG, Maggie illus: Fan. 2/2:36 Sp82
STEPHENSEN, Magnus exh rev. 1/1:47 F80
STERLING SILVERSMITHS GUILD OF AMERICA—Exhibitions Statements in sterling/80 (Lever House, New York City). 1/1:59 F80 (il); Statements in sterling/81 (Nelson Gallery/Atkins Museum, Kansas City, MO). 2/1:50 W82
STRAW as material 2/2:27-9 Sp82
STREIB, Caroline exh rev. 1/3:61 Sp81 (4 ils)
STRINGER, Gillian exh rev. 1/3:64-5 Sp81 (il)
STROSAHL, Patrick exh rev. 1/2:64 W81
STUART, Donald exh rev. 1/1:59 F80 (il)
STUDENT art On view (profiles of schools offering metals programs and examples of students' work). 2/1:28-33 W82 (33 ils); 2/2:33-6 Sp82 (19 ils)
STUDENT Art—Exhibitions Statements in sterling/80: Sterling Silversmiths Guild of America (Lever House, New York City). 1/1:59 F80 (il)
STUDENT art, British—Exhibitions Two views of the exhibit "Passing out"; Goldsmiths' Hall, London. 1/3:64-5 Sp82 (2 ils)
STUDIOS See also: Artists' homes
STUDY AND TEACHING Metalsmith summer programs 1981. 1/3:32-7 Sp81 (12 ils); Metalsmith summer programs 1982. 2/2:30-32 Sp82; On view (profiles of schools offering metals programs and examples of students' work). 2/1:28-33 W82 (33 ils); 2/2:33-6 Sp82 (19 ils); Three schools in Boston (School of the Museum of Fine Arts, Program in Artisanry at Boston University, Massachusetts College of Art). 2/2:37-8 Sp82 (6 ils); See also: Cranbrook Academy of Art, Bloomfield Hills, MI and specific schools, e.g., Rhode Island School of Design
SUMMERVAIL Workshop See also: Rocky Mountain Metalsmithing Symposium, Minturn, CO
SUPENSKY, Tom John Fix: jewelry (exh rev). 1/4:64 F81 (2 ils)
SWIM, Peter illus: Brooch 2/1:24 W82
TAKEDA, Mary exh rev. 1/4:68 F81
TAMMINEN, Olli exh rev. 2/2:46 Sp82
TAMULEVICH, Susan Architectonic works in metal/Gretchen Raber (exh rev). 1/3:67-8 Sp81 (3 ils); Komelia Hongja Okim (exh rev). 1/2:60-1 W81 (4 ils); Moth wings: recent works in enamel/Belle and Roger Kuhn (exh rev). 1/3:66 Sp81 (il)
TANNER, Elisabeth illus: Game board brooch. 2/1:28 W82
TAUSSIG, Anne Everyday metal (exh rev). 1/1:53 F80 (3 ils); exh rev. 1/4:68,69 F81 (il)
TAYLOR, Eileen F. illus: Hair piece. 1/2:42 W81
TAYLOR, Laurie Fancy goods: Ralph Turner's collection of popular jewelry (traveling exhibition). Excerpts from the catalog; introduction by L. Taylor. 1/3:15-19 Sp81 (5 ils)
TEN ARROW GALLERY, Cambridge, MA—Collections The criteria of collecting crafts. 1/2:30-1 W81 (3 ils)
THEFT Editorial (discusses increasing number of thefts of metalwork from studios, galleries and private residences). 1/3:7 Sp81
THEOPHILUS Secrets of a master craftsman: 1100-1981 (examples of medieval and contemporary work based on techniques described by Theophilus in his treatise "On divers arts") (exh rev). 1/4:62 F81
THOMAS, James exh rev. 1/2:55 W81
THOMAS, Richard *1/1:23 F80 (il); *interview. 2/2:8-13 Sp82 (8 ils; por); Editorial (M. Baldridge's personal recollections of Richard Thomas and his teaching at Cranbrook Academy of Art). 2/2:3 Sp82
THREADGILL, Linda Alternative etching methods (technical paper) 1/4:35-7 F81 (6 ils; artist's work; 1 il process); The Thames & Hudson manuals: Silversmithing by F. Loyen; Metalworking by P. Scott; Direct Metal Sculpture by Trevor Faulkner (bk rev) 1/4:70 F81
THYSSEN-Bornemisza Collection Masterpiece in metal: the Kingston tureens: French silver designed by Juste Aurèle Meissonnier. 1/4:28-9 F81 (2 ils)
TIFFANY & CO., New York City illus: Vase. 1/2:28 W81
TINLOT, Betty The criteria of collecting crafts. 1/2:30 W81
TINSLEY, Dana illus: Pendant. 2/2:41 Sp82
TISDALE, David illus: Bracelet. 2/1:31 W82
TITANIUM—Exhibitions American titanium (jewelry): Artwear Gallery, New York City. 1/2:62-3 W81 (5 ils)
TITANIUM—Health Hazards Health: questions & answers. 2/1:53 W82 (diags)
TITANIUM jewelry The business of jewelry: Ivy Ross. 1/2:32-5 W81 (10 il; por)
TOM, Michael exh rev. 1/3:63 Sp81
TOOLS—Collections and collectors See also: Firch, Jan, collection
TOOLS—Exhibitions The toolmaker's art: 17th-19th century European tools from the collection of Jan Firch: Flint Institute of Arts, Flint, MI. Excerpts from the exhibition catalog. 2/1:11-15 W82 (12 ils)
TOPAZ *2/2:15 Sp82
TORTELL, Louis exh rev. 1/4:65 F81 (il)
TOYS as art Brent Kington. 2/2:24-6 Sp82 (il)
TRIPP, William illus: Chariot. 2/1:33 W82
TUREENS Masterpiece in metal: the Kingston tureens: French silver designed by Juste Aurèle Meissonnier. 1/4:28-9 F81 (2 ils)
TURNER, Ralph, collection—Exhibitions Fancy goods: Ralph Turner's collection of popular jewelry (traveling exhibition). Excerpts from the catalog of the exhibition. 1/3:15-19 Sp81 (21 ils)
TURNING Opinion: discussion of the "rotation form syndrome." 1/3:8 Sp81
TYLER, Christopher Nova Scotia metalsmiths. 2/1:23-5 W82 (11 ils)
UBICK, Judith *exh rev. 1/3:66 Sp81 (il)
UNIVERSITY OF GEORGIA, Athens On view (profile of metals program and examples of students' work). 2/2:33-6 Sp82 (5 ils)
UNIVERSITY of Wisconsin, Madison On view (profile of metals program and examples of students's work). 2/2:33-6 Sp82 (6 ils)
UNTRACHT, Oppi exh rev. 1/1:36-8 F80 (2 ils)
UTENSILS See also: Kitchen utensils
VAN MANEN, Mathys (Leomat) *2/1:16-18 W82 (8 ils)
VAN WINKEL, Bea illus: Scale. 2/1:30 W82
VASES, Chinese 1/1:34-5 F80 (il)
VIRGINIA MUSEUM OF FINE ARTS, Richmond—Collections René Lalique: seahorse brooch (in the Art Nouveau Collection of the Virginia Museum of Fine Arts, Richmond, VA). 2/1:26-7 W82 (2 ils diags)
VINOGRAD, Alice exh rev. 1/1:59 F80
VON NAGEL, Hede exh rev. 1/4:68 F81
WAGLE, Kate Contemporary metal (exh rev). 2/1:47-8 W82 (4 ils); exh rev. 2/2:44,45 Sp82 (il)
WALTER, Barbara *exh rev. 1/3:69 Sp81 (il)
WARD, James Brent exh rev. 1/2:62, 63 W81 (il)
WATCH band repair Shortening a mesh watch band. 2/2:54-5 Sp82
WATERS, Bryan illus: X-J-15 neckpiece. 2/2:34 Sp82
WATSON, Kathy illus: Roll top boxes. 2/2:34 Sp82
WATSON-ABBOTT, Lynda Helen Shirk-jewelry and holloware (exh rev). 1/1:58 F80 (il); *exh rev. 2/2:46 Sp82 (il)
WATTENMAKER, Richard The toolmaker's art: 17-19th century European tools from the collection of Jan Firch: Flint Institute of Arts, Flint, MI. Excerpts from the exhibition catalog. 2/1:11-15 W82 (12 ils)
WECKSTROM, Bjorn exh rev. 2/2:46 Sp82
WEGMAN, Martijn illus: Necklace. 1/3:19 Sp81
WEGNER, Nadene R. 1/2:21 W81 (5 ils; por)
WEISS, Linda Health hazards: questions & answers (discusses breathing investment dust, ammonium sulfate and zinc fumes). 1/4:70 F81; Health hazards: questions & answers (discusses dangers of titanium processes). 2/1:53 W82 (diags); Health hazards: questions & answers (discusses fumes from soldering fluxes; SPAREX as an alternative to sulfuric acid). 2/2:54 Sp82; exh rev. 1/2:58 W81; *exh rev. 1/3:62-3 Sp81 (2 ils)
WEISSER, Maude exh rev. 1/4:65 F81
WELLES, Frances exh rev. 1/4:58 F81
WETHERELL, Brian illus: Fish pin I. 2/2:33 Sp82
WILLIAMS, Julianna Furlong Enamels and plastics: jewelry and sculpture (exh rev). 1/2:55 W82 (il)
WILLIAMS, Michael exh rev. 1/2:64 W81
WILLIAMS, Michael exh rev. 2/1:50 W82
WILSON, J. Maureen *exh rev. 1/3:70-1 Sp81 (2 ils); exh rev. 1/4:65 F81
WILSON, Rick exh rev. 1/4:65 F81
WIRKKALA, Tapio exh rev. 2/2:46 Sp82 (il)
WISE, George exh rev. 1/4:64-5 F81 (il)
WITTEK, Victoria illus: Armschmuck. 1/1:60 F80
WOELL, J. Fred *1/1:30,31 F80 (il); exh rev. 1/4:57,65 F81
WOOD, Joseph exh rev. 1/3:61 Sp81
WOODBRIDGE, Sally Merry Renk, jeweler (exh rev). 1/4:63-4 F81 (il)
WYANCKO, Ronald exh rev. 1/4:64 F81
YAGER, Jan illus: Hollow pillow pin series. 2/1:28 W82
YEE, Kay Y. 1/2:22 W81 (2 ils; por)
YOHAI, Debra Fine illus: Necklace, cloisonné enamel. 2/1:49 W82
YOUNG, Barbara The phiale, a Greek libation vessel. 1/4:10-15 F81 (10 ils)
ZARUBA, Douglas exh rev. 1/3:62 Sp81
ZILKER, Sandra Parmer exh rev. 1/4:59 F81; exh rev. 2/2:45 Sp82
ZSCHALER, Othmar 1/1:44-5 F80

Thompson Enamel
1539 Old Deerfield Road
P.O. Box 127
Highland Park, IL 60035

Your complete source for enameling supplies for Metalsmiths and jewelers

to receive our catalog send coupon and $3.00

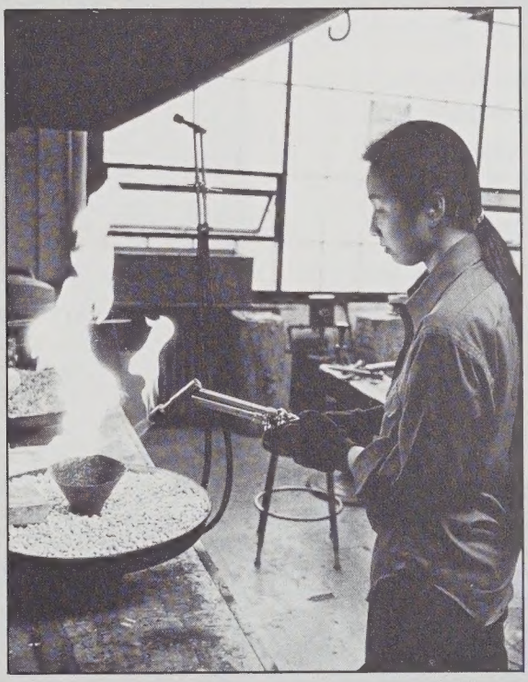
Name
Address
City
State/Zip

ARTWEAR

409 WEST BROADWAY NYC 10012
212/431-9405

At Rhode Island School of Design, we create a unique atmosphere where creativity can flourish. Here amid the tranquil beauty of New England, we offer the serious and dedicated student graduate degrees in 10 programs and 18 studio degrees including these craft majors:
■ Wood Furniture Design ■ Ceramics ■ Glass ■ Jewelry/Metals ■ Printmaking ■ Textile Design.

RISD is one of America's foremost art and design schools



with an outstanding faculty of internationally known teachers and craftsmen.

Enrollment deadline for Transfer Students is March 7th, and March 1st for graduate students.

For more information and course descriptions write Rhode Island School of Design, Admissions Office, Dept. AC, 2 College St. Providence, RI 02903.

RHODE ISLAND SCHOOL OF DESIGN 1877 RISD

The Perfect Place To Perfect Your Craft.

AMERICAN craft

the magazine that puts you in touch with the excitement of contemporary crafts. In each bimonthly issue, AMERICAN CRAFT presents distinguished master craftsmen, museum exhibitions, craft in architecture, and profiles of collections, galleries, and emerging talents.

AMERICAN CRAFT also provides a national calendar of craft exhibitions and events, book reviews, and a special news section, "Craft World."

AMERICAN CRAFT is a benefit of membership in the American Craft Council, the leading organization for crafts in this country. As a council member, you'll enjoy the additional benefits of free admission to the American Craft Museum and council library in New York City, discounts on council publications, and group insurance rates.

RECEIVE ONE FREE ISSUE PLUS A ONE-YEAR SUBSCRIPTION WITH THIS COUPON

Annual Dues: $29.50 ($33 per year outside the U.S.)
$22.00 to students with copy of current official student I.D.

Please enter my membership in the American Craft Council which includes a one-year subscription to AMERICAN CRAFT.

Name _____

Street _____

City _____ State _____ Zip _____

Amount enclosed $ _____

Allow 6-8 weeks to receive your first copy of AMERICAN CRAFT

Contributions are deductible within legal limits for tax purposes. Make all checks in U.S. funds payable to ACC.

Mail this form in an envelope with payment to:
American Craft Council (Membership)
P.O. Box 1308-CL, Fort Lee, N.J. 07024 9M53

NOTICE:

Change of Address:

The SNAG main office will now be located at 2849 St. Ann Dr., Green Bay, WI 54301. All dues, change of address, questions on *Metalsmith,* etc., should be sent to this address until further notice.

T. B. HAGSTOZ & SON, INC.

Refiners and Dealers● Precious Metals● Silver Solders● Craft Metals

709 SANSOM STREET, PHILADELPHIA, PA. 19106

FOR JEWELERS & CRAFTSMEN
TRY OUR 18K N.T. GOLD CLOISONNE WIRE

Casting Supplies

GOLD	FINDINGS	PEWTER
SILVER	TOOLS	SPEC. BRONZE
COPPER	WAXES	NICKEL
BRASS		SILVER

SINCE 1898 215 922- 1827 Send for free catalogue

JEWELRY CLASSES

Comprehensive & Specialized Courses

- Hard Soldering
- Electro-Plating
- Enameling/cloisonne
- Wax modelling
- Casting/Mold Making
- Stone Setting
- Jewelry Repair
- Polishing/Buffing

Beginners and Advanced Students
Flexible class hours / Open 7 days a week / Bench Time Available

FREE INTRODUCTORY LESSON
Individual and Small Group Instruction
32 East 31 St. New York, N.Y. 10016 (212) 686-1944

STUDIO JEWELERS, LTD.

PENLAND SCHOOL OF CRAFTS

summer 16 weeks
2 and 3 week sessions

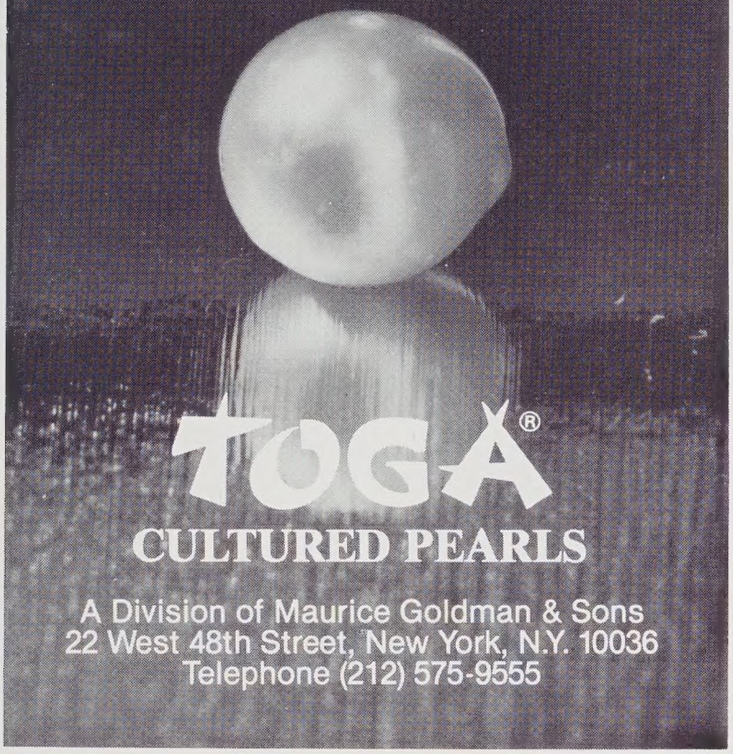
fall and spring sessions
8 weeks

for more information write:

penland school of crafts
penland, north carolina
28765
704/765-2359

Loose Cultured Pearls

In all sizes of loose pearls—round, baroque, fresh water pearls (BIWA pearls), South Sea pearls, singles and pairs.



TOGA®

CULTURED PEARLS

A Division of Maurice Goldman & Sons
22 West 48th Street, New York, N.Y. 10036
Telephone (212) 575-9555

THE QUALITY CRAFTS MARKET

THE MONTHLY MARKETING SERVICE FOR PROFESSIONAL CRAFTSPEOPLE, CRAFT SHOPS AND GALLERIES

Every issue contains important market information, exclusive buyer contacts and special Marketing Services.

For example • **WHAT'S SELLING AROUND THE COUNTRY:** A monthly survey of sales and sale trends for quality crafts retailing from $5 to $1000+, as reported to QCM by shops, galleries and department stores throughout the country. • **BUSINESS MANAGEMENT:** Craftspeople and craft shop & gallery owners share information on pricing, purchasing, tax management, contracts, etc. • **EXCLUSIVE LEADS FOR ARCHITECTURAL COMMISSIONS:** Regular listings to help you sell your crafts for newly planned buildings around the country —

☐ TRIAL SUBSCRIPTION (6 issues), $14. ☐ REGULAR SUBSCRIPTION (12 issues), $24.

My Name: _____

Business Name: _____

Address: _____

City, State, Zip: _____

☐ Check or money-order enclosed.

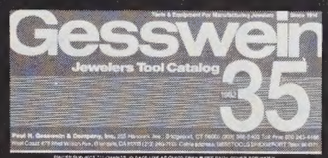
Please charge to ☐ Mastercard ☐ Visa

Card Number: _____ Exp. Date: _____

THE QUALITY CRAFTS MARKET
521 Fifth Avenue, Suite 1700
New York, NY 10017

Gesswein

...Jewelers' Supplies for over 65 years.



"Super-Source" ...over 3,000 items... everything you need, and everything of the finest quality, all in Catalog #35.

For your FREE time and dollar saving Catalog #35, write Gesswein, Inc., 255 Hancock Ave., Bridgeport, Ct. 06605 or call 800-243-4466. In Ct. 366-5400.

REPRODUCE ALMOST ANYTHING

Now you can cast into metal, designs that could not be cast previously. Silicone molds are ideal for reproducing natural designs such as sea shells, sea horses, crabs, coral, pinecones (closed), etc. Designs made of plastic, glass, wood, ivory or fired clay can also be reproduced by making silicone molds. Designers have found this process to be helpful when altering, repairing or adding to a design, by adding wax directly to the model before the mold is made.

The silicone mold process causes a shrinkage of less than 1% in the reproduction.

for additional information, write:
Billanti Casting Co., Inc.
64 West 48 Street Dept. MS-M
New York, NY 10036
(212) 869-5085

Gold Silver Bronze Brass Copper White Bronze Silicone Molds Rubber Molds

Billanti Casting Co., Inc.

for the ARTIST & CRAFTSMAN ooo

REACTIVE METALS SUPPLY COMPANY

- TITANIUM— Sheet-Bright, Annealed Wire & Tubing
- NIOBIUM
- TANTALUM

Write for Catalogue & wants:
RMS o P.O. Box 2191 o Lawrence, KS 66045

JEWELRY MOLD MANUFACTURING CO.

HIGHEST QUALITY
RUBBER MOLDS & WAX DUPLICATES
YEARS EXPERIENCE:
JEWELRY INDUSTRY PRODUCTION • MOLD MAKING
UNIVERSITY METAL DEPARTMENT TEACHING

- 20% DISCOUNT ON FIRST ORDER—THRU 1982
- FREE ESTIMATES
- NO OBLIGATION
- CONTACT: PAULETTE MYERS 1-314-849-3334

MAILING ADDRESS:
JEWELRY MOLD
MANUFACTURING CO.
P.O. BOX 8627
ST. LOUIS, MISSOURI 63126

ANCHOR
TOOL and SUPPLY CO. INC.
FINE TOOLS for CRAFTSMEN

TOOLS AND SUPPLIES FOR:
GOLD AND SILVERSMITHING •
CASTING • PLATING •
FINDINGS • ENAMELS •
SEPPA SINUSOIDAL STAKES •
BLACKSMITHS TOOLS

Send $2.00 (refundable on first order of $10.00) for our illustrated new catalog

ANCHOR TOOL AND SUPPLY COMPANY, INC.
231 MAIN STREET (Route 24) CHATHAM, N.J. 07928
Telephone: (201) 635-2094

OVER THE COUNTER STORE HOURS: TUESDAY THRU FRIDAY 1-5 P.M.,
SATURDAYS 10-1 P.M., OR BY APPOINTMENT

THIS COUPON CAN MAKE A BIG DIFFERENCE IN YOUR LIFE

If you are not already a regular reader of THE CRAFTS REPORT, now is the time to join thousands of the country's finest professional craftspeople, shop and gallery owners, teachers, show managers, and crafts administrators who stay on top of the news and information that makes their lives more successful and rewarding. All the news and activities of the contemporary crafts world.

Every issue is packed with valuable information: how to sell, where to sell, how to save on taxes, how to manage the "business side" of your craft activities, how other craftspeople do it, how to earn a better living in crafts.

All of this is designed to take the hassles out of the "business side" of your life so that you can devote more time to your craft work and less time to your paperwork.

Discover what other readers have found — as few as two or three good sales contacts through the "Crafts Wanted" or "Crafts Available" sections and you have your subscription investment back many times over. Every year you'll see literally hundreds of solid money-making or money-saving opportunities you find nowhere else but in THE CRAFTS REPORT, the only monthly newspaper in the crafts field.

THE CRAFTS REPORT
700 Orange St., PO Box 1992, Wilmington, DE 19899
MS

YES! Please send THE CRAFTS REPORT regularly every month. Enclosed is my check for
☐ $15.75 one year (11 issues)
☐ $29.00 two years (22 issues)

Name _____
Business Name (if any) _____
Address _____
City _____ State _____ ZIP _____

GOLD
&
SILVERSMITHS

Complete selection of
TOOLS, METALS & FINDINGS
CASTING EQUIPMENT & WAXES
POLISHING MACHINES, TUMBLERS
SOLDERING SUPPLIES
GEM STONES

Send $1.00 for catalog
C.W. SOMERS & CO., Inc.
387 Washington Street
Boston, Mass. 02108
Phone: (617) 426-6880

Announcing
SNAG Annual Conference
June 8-12, 1983
Asilomar Conference Grounds
Pacific Grove, California

For Information Contact:
Douglas Steakley, Conference Coordinator

P.O. Box 736
Carmel Valley, CA 93924
408-659-4346

BOSTON FINDINGS & JEWELERS SUPPLY

FINDINGS & STONES
precious metals tools, equipment, supplies

THE JEWELERS BUILDING
373 Washington St.
Boston, Mass. 02108

NORTHEAST:
800-225-2436

MASS. RESIDENTS:
800-882-1226

ORNAMENT

A Quarterly of Jewelry & Personal Adornment
CONTEMPORARY, ANCIENT, ETHNIC AND COMMERCIAL JEWELRY, COSTUME & CLOTHING

"There's a balance between historical explanations and detailed pieces on modern craftspeople . . . it retains a highly personal, noncommercial attitude which will encourage the serious art historian & craftsperson."
Library Journal

USA, CANADA, MEXICO
☐ 8 ISSUES FOR **$33** (SAVE $3)
☐ 4 ISSUES FOR **$18**

ALL OTHER COUNTRIES
☐ 8 ISSUES FOR **$41** (SAVE $3)
☐ 4 ISSUES FOR **$22**

Please enclose payment made out to ORNAMENT
P.O. Box 35029, Los Angeles, CA 90035-0029

Spring Workshops

Textures on Metal
Tim McCreight
March 5 & 6

Diamond Setting
Mark Agerholm
March 26 & 27

Lost Wax Casting
John Heller
April 16 & 17

Offered through Professional Craft Studies
A two-year program for career-oriented craft students

Call or write for brochures on workshops or programs

The Worcester Craft Center
25 Sagamore Road
Worcester MA 01605
(617) 753-8183

Second ORNAMENT International
JURIED JEWELRY COMPETITION

ALL forms, ALL media.
One-of-a-kind
to production.
Precious to ephemeral.

MONETARY PRIZES, AWARDS & COVERAGE IN ORNAMENT.

Forms available after March 1983. Requests must be accompanied by a stamped self addressed #10 business envelope.

ORNAMENT
P.O. Box 35029, Los Angeles, CA 90035-0029

We bring together the art and business of American Craft

Our Craft Fairs are your best opportunity to meet qualified wholesale buyers and knowledgeable, discerning customers. Send for more details and complete application information on specific Fairs.

ACC CRAFT FAIR AT BALTIMORE · DALLAS

RHINEBECK · NEWPORT · SAN FRANCISCO

The Craft Fair at	1983 Application Deadlines	1983 Fair Dates
Baltimore	October 1, 1982	February 9-13
Dallas	November 15, 1982	March 24-27
Rhinebeck	January 7, 1983	June 20-26
Newport	January 7, 1983	July 22-24
San Francisco	March 10, 1983	August 10-14

American Craft Enterprises, Inc.
PO Box 10-M/New Paltz, NY 12561/914/255-0039

Support the only national organization dedicated to the Advancement of American Craft. Join The American Craft Council.

American Craft Council
401 Park Avenue South
New York, NY 10016

ALLCRAFT
TOOL & SUPPLY COMPANY, INC.

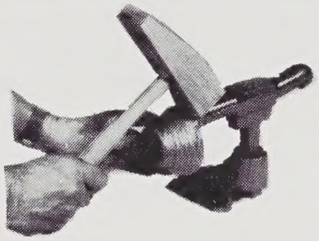
Tools and Supplies For:

- JEWELERS
- SILVERSMITHS
- METALSMITHS
- CASTERS
- DESIGNERS
- ENAMELISTS

New Catalog

OVER 160 PAGES OF UNIQUE TOOLS

25,000 Ft. Of Warehouse and Manufacturing



MAIL ORDERS and CORRESPONDENCE
100 Frank Road — Hicksville, N.Y. 11801
Phone 516 433-1660 — 212 895-0686

NEW YORK SALESROOM
22 West 48th Street — New York, N.Y. 10036
Phone 212 246-4740

CALIFORNIA SALESROOM
204 North Harbor Blvd. — Fullerton, Calif. 92632
Phone 714 870-8030 and 870-8031

Use this form to mold a career in metal.

At Boston's Museum School, our metalsmithing program takes shape in a variety of ways. We offer a wide selection of courses–including hand forming techniques, casting, enameling, plating and electroforming.

You'll learn from a faculty of practicing professional artists. And you'll have the choice of earning a BFA or BS, or enrolling in a special double-degree program through Tufts University and the Museum School.

So if you want to make your mark in metal, start by filling out this form.

Name_____

Address_____

City_____ State_____ Zip_____

Boston Museum School

230 The Fenway, Boston, MA 02115
A Department of the Museum of Fine Arts
Affiliated with Tufts University

The School of the Museum of Fine Arts admits students of any race, color and national or ethnic origin.

Classified

Assistant Professor in jewelry design/metalsmithing position at School of Fine Arts, Indiana University, Bloomington, available beginning Fall, 1983, Tenure Track. Teach undergraduate and graduate courses in metalsmithing and jewelry design; coordinate MFA program in metalsmithing. Salary based on experience. MFA and several years teaching experience at the college level required. Strong exhibition record required. Send 3 letters of recommendation, transcripts, minimum of 20 slides of recent work, minimum of 20 slides of student work, SASE to Kent Dawalt, Chair, Search Committee, School of Fine Arts, Indiana University, Bloomington, IN 47405. Deadline: February 1, 1983. Indiana is an Affirmative Action/Equal Opportunity Employer.

Seeking Apprenticeship: Silversmith or jewelry. Six years metals experience, B.S. Art-Metals UW Madison. Rita Zachman, 218 Belmont Rd., Madison, WI 53714.

Publishing Retail Cooperative Mail Catalog for Jeweler/Craftsmen. Contact Pat—The Regent Company, 2810 Morris Avenue, Union, NJ 07083.

Rates: Minimum 15 words—$15. After that, $1.25 per word (abbreviations, initials count as full words). When figuring number of words, be sure to include name and address.
Payment: Full payment must accompany each order. Make checks out (in US Dollars only) to: *Metalsmith,* Classified. Mail payment and copy to: Metalsmith Classified, David Freda/Holly Hutchins RD4, Box 388, Kallop Rd., Kingston, NY 12401.
Agency Commission: No agency commission on classified advertising.
Deadlines: Ads must be received by the first of the month, two months prior to issue date (i.e., July 1 for Fall issue; October 1 for Winter issue; January 2 for Spring issue; April 1 for Summer issue).
Accepted: Publisher reserves the right to accept or reject advertisements for *Metalsmith:* Classified at his discretion. Advertisements accepted only in the categories: Help Wanted—Apprenticeship and Teaching Opportunities; Rentals and Sales of Studio Equipment by individual craftsmen; Tools—used or handmade and sold as a specialty by individual craftsmen; Exchanges; Business Opportunities; Services of individual craftsmen.

Tools for Jewelry Making

JEWELRY TOOLS • CASTING SUPPLIES

JEWELRY FINDINGS • ENAMELS

SUPPLIES • PLATING EQUIPMENT

GOLD AND SILVER-SMITHING

Distributors for Kerr Mfg. Co. and Branson Ultrasonic Cleaners

You can get all your jewelry making supplies in one place. Please send $2.00 for catalogue which is deductible from first order of $5.00 or more. Requests on school or organization letterhead exempt.

C. R. HILL COMPANY
DEPT. GJ
2734 W. 11 MILE ROAD
BERKLEY, MICHIGAN 48072
(313) 543-1555

D. J. S. Co.

+DISCOUNT PRICES ON
+JEWELERS TOOLS AND
+SUPPLIES INCLUDING:
METALS, HARD TOOLS,
CASTING MACHINES, WAX
INVESTMENTS, ENAMELS,
SEMI-PRECIOUS STONES.

For a Catalog Folder
of Bargains send $2.00
and your address to:

Del. Jewelers Supply
1114 GREENTREE ROAD
NEWARK, DELAWARE 19713

METALS, FIBERS CLAY AND GLASS AT **PARSONS**

Join the thousands of New Yorkers who are building their skills and careers at the college that has set the standard for design education for more than 85 years: Parsons. Workshops and courses are offered for credit or non-credit in the disciplines of metal, clay, fibers, glass and wood.

Classes are taught by a distinguished faculty including: Marilyn Dintenfass, David Gill, Markku V. Piri, Alfred Durante, Peter Mroczkowski and Albinas Elskus. Classes meet in specially designed studios unsurpassed in the New York area.

For more information on the Crafts Program, please call or write Mary Ann Scherr, Director of Metals, Fibers, Clay and Glass at:

Parsons School of Design
66 Fifth Avenue
New York, N.Y. 10011
(212) 741-8668

what's new

peters valley

lots!

blacksmithing,
ceramics, jewelry,
textiles and wood workshops
resident program/internships

Send stamped,
self-addressed
envelope for 1983
brochure to:
Peters Valley,
Layton, NJ 07851
201-948-5200

A Residential Crafts Community

Upcoming in the Spring Issue of **Metalsmith**

A Metalsmith's Guide to Northern California
by Ann Grundler

Master Metalsmith: Margaret de Patta
by Robert Cardinale & Hazel Bray

1983 Summer Programs

Mokume-gane: Update II
by Hiroko & Gene Pijanowski

and more

GEM STONES

You need them for your total jewelry program. Send for a large selection of precious & semi-precious stones. Priced for student craftsmen.

OPALS • GARNETS • STARS • LAPIS • JADE • MOONSTONES • TOURMALINE • SMOKY QUARTZ • CORAL • PEARLS and many more. Keep stones for 30 days. Send back any or all and pay for stones you want to keep. Why buy from a catalogue?

SPECIAL ORDERS AVAILABLE

SEND ORDERS ON SCHOOL STATIONERY

KENNETH F. ROSE
GEMS
P.O. BOX 84 M
SOUTHFIELD, MICH. 48037

MARCH 7 - APRIL 1, 1983

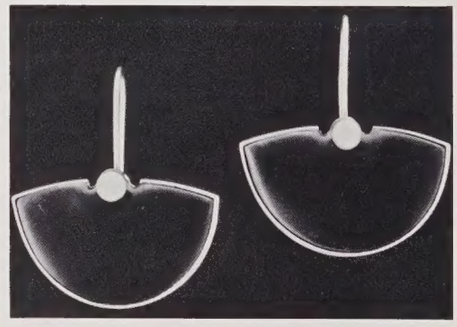
Four one week workshops for students of all ability levels and media interests.

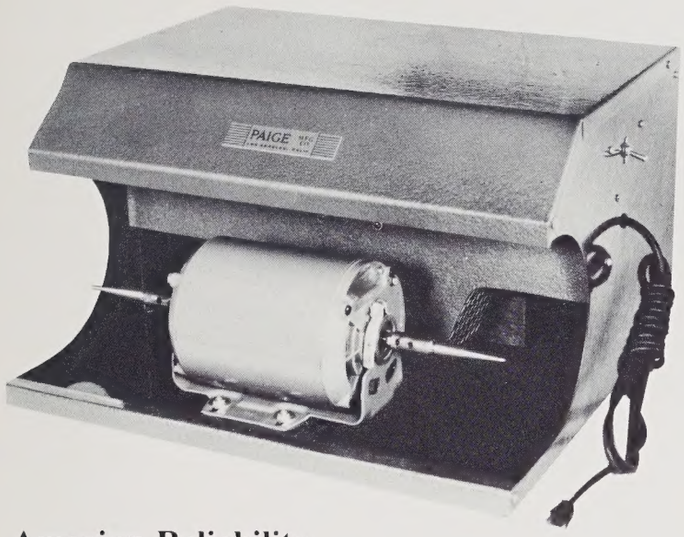
Clay (handbuilding, production, raku, porcelain) **Fiber** (weaving-wearables, ikat, warp-weft shifting; basketry) **Fabric** (screen printing, paste resist, commission, quilting) **Metal** (non-ferrous fabrication & forging, enameling, blacksmithing, jewelry) **Stain Glass/Wood** (lamination, turning) **Papermaking/Oil Painting/Drawing/Photography** (black-white/color)

graduate and undergraduate credit

Pi Beta Phi
ARROWMONT
School of Arts and Crafts
Box 567, Gatlinburg, TN 37738
(615) 436-5860

Ars
R.R.2, Box 23A
High Falls, NY. 12440
(914)687-7408





Amazing Reliability

Paige polishers are among the finest table top dust collectors made. Units come with a 1/3 hp 3,450 rpm motor with a tapered spindle on both ends. There are lights on both work stations and debris is pulled into a disposable fiberglass filter.

J336-009 w/motor and spindles $185.79

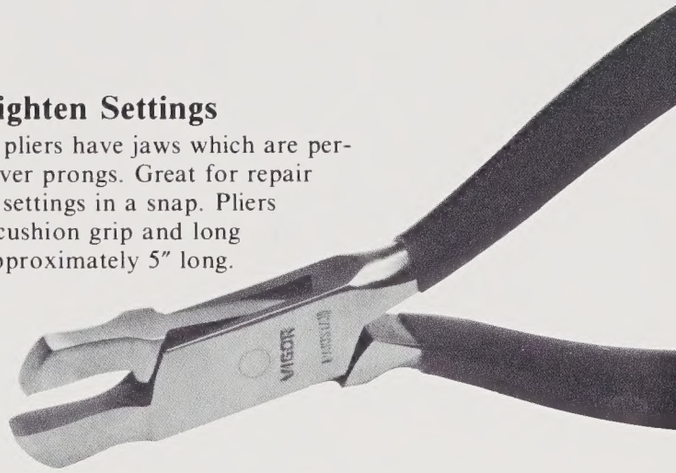
Set Stones —Tighten Settings

These prong closing pliers have jaws which are perfectly angled to fit over prongs. Great for repair work. Tighten loose settings in a snap. Pliers have a comfortable cushion grip and long lasting box joint. Approximately 5" long.

J111-176

1-9 $9.96

10+ 8.96



Natural Shape for a Better Fitting Ring

Fingers are actually shaped like "rounded squares". After you've sized your ring on a conventional mandrel, just slip it over this one and reshape it. You'll have a more comfortable, natural shaped shank that is less prone to twist on your finger. Unmarked sized 4 - 15. 12" long. J112-369

1-9 $11.51 10+ 10.34

Never Mar Never Scar

This tough, plastic head mallet will long outlast conventional leather head mallets. Head is 3½" long x 1⅜" in diameter. J112-234

1-9 $9.20

10+ 8.40

Measure Ring and Finger Sizes Quickly

This set of finger gauges is accurately sized from 1 - 15 in half sizes. It is formed from flat, nickel plated stock, and measures fingers for all normal width rings. J116-021

1-9 $11.00 10+ 8.73

Aluminum Ring Stick

J116-032 (w/groove)

1-9 $13.30 10+ 11.11

J116-035 (w/o groove)

1-9 $12.36 10+ 10.32

All Steel Sawframes

Super Low Prices With Quantity Purchases

		1-9	10+
J110-063	3"	$8.98	$8.07
J110-064	4"	9.82	8.82
J110-065	5"	12.95	11.55

Rathburn Ring Stretcher

A simple and economical way to enlarge rings. Tapping the insert into this specially designed mandrel causes it to expand in width, forcing the ring to expand in size. Approximately 5" long. J116-030

1-9 $13.90 10+ 12.51

ORDER TOLL FREE

1-800-545-6566

rio grande

JEWELERS SUPPLY inc

6901 WASHINGTON, N.E. ALBUQUERQUE, N.M. 87109

Send for our ***NEW*** *Catalog Free Upon Request*

Guarantee

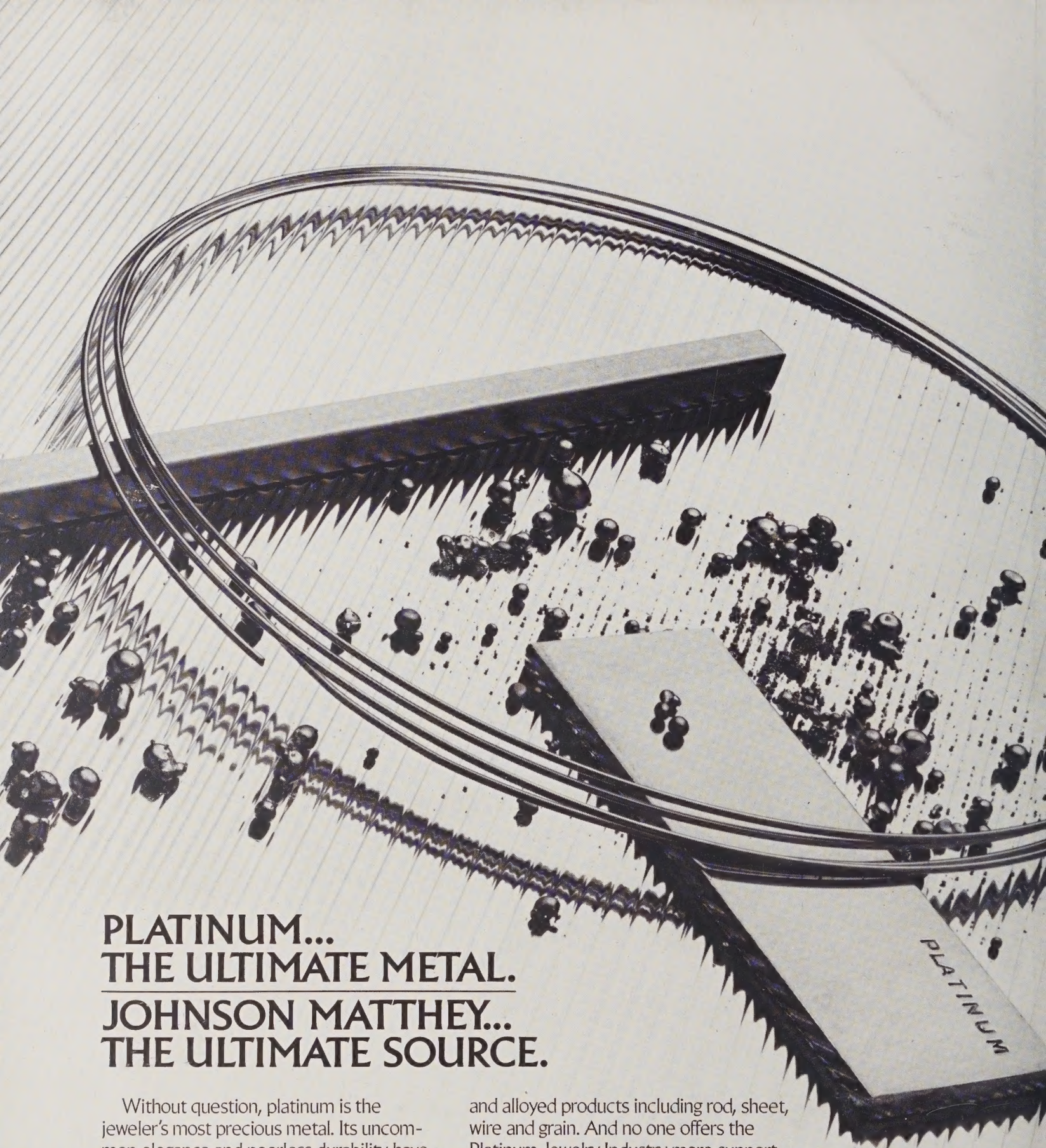
You must be satisfied . . .

Rio Grande guarantees everything you buy from us to be free from defects in material and/or workmanship.

If you're not completely satisfied with any product purchased from us, return it within 30 days and we will exchange it, replace it, refund your money, whichever you decide. No questions asked.

This warranty does not include incidental or consequential expenses. No other warranty is implied.

Note: This warranty only covers items cataloged or normally stocked by Rio Grande.



PLATINUM... THE ULTIMATE METAL.

JOHNSON MATTHEY... THE ULTIMATE SOURCE.

Without question, platinum is the jeweler's most precious metal. Its uncommon elegance and peerless durability have sparked designers and manufacturers to create outstanding jewelry for years. And it has been used to enhance and protect some of the world's most remarkable gemstones. Let platinum help you create your own distinctive jewelry. As the sole marketing agents of the world's largest platinum mine, Johnson Matthey is the most reliable source of a broad line of pure metal and alloyed products including rod, sheet, wire and grain. And no one offers the Platinum Jewelry Industry more support through design competitions, workshops, technical support, and consumer awareness programs. For more information and a copy of our new brochure, "Platinum, The Ultimate Alternative for Jewelry," contact us at Johnson Matthey, 608 5th Avenue, New York, NY 10020, tel.: (212) 245-6790.

JOHNSON MATTHEY